PB89-135636

Superfund Record of Decision (EPA Region 8)
Anaconda Smelter Site, Mill Creek, Montana
(First Remedial Action), October 1988

(U.S.) Environmental Protection Agency
Washington, DC

2 Oct 88

U.S. Department of Commerce
National Technical Information Service
NTIS

United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R08-88/018
October 1987

PB89-135636

EPA

Superfund Record of Decision:

Anaconda Smelter/Mill Creek, MT

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
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REPORT DOCUMENTATION PAGE

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Anaconda Smelter/Mill Creek, MT
rst Remedial Action

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9. Performing Organization Name and Address

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U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

13. Type of Report & Period Covered 800/000

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

The 160-acre community of Mill Creek is located in Deerlodge County, Montana, immediately adjacent to the Anaconda Smelter NPL site. The community of Mill Creek has been contaminated for over 100 years with smelter emissions, fugitive emissions of flu dust at the smelter, and continued fugitive emissions emanating from adjacent highly contaminated soils. Settled flue emissions in the community of Mill Creek, from the now defunct copper smelting operation, contain arsenic, cadmium, and lead. Environmental ting of the community and biological testing of pre-school children, led EPA to conclude that contamination in the Mill Creek area poses an imminent and substantial endangerment to the health of individuals residing there. In combination with future operable units for Mill Creek, the goal of this interim remediation is to provide adequate permanent protection for the health of current residents and interim protection for future short-term visitors to the area. The primary contaminant of concern at this site is arsenic. Cadmium and lead are secondary contaminants of concern.

The selected remedial action for this site includes: permanent relocation of all residents (8 homes) with temporary erosional stabilization of disturbed areas by establishing and maintaining a vegetative cover; demolition, consolidation, and (See Attached Sheet)

17. Document Analysis a. Descriptors

Record of Decision
Anaconda Smelter/Mill Creek, MT
First Remedial Action
Contaminated Media: debris, soil
Key Contaminants: metals (arsenic)

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

1 ilability Statement

19. Security Class (This Report) None

20. Security Class (This Page) None

21. No. of Pages 399

22. Price

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
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EPA/ROD/R08-88/018
Anaconda Smelter/Mill Creek, MT
First Remedial Action

16. ABSTRACT (continued)

temporary onsite storage of debris; fencing and posting of the entire site; and implementation of site access and deed restrictions. The estimated present worth cost for this remedial action is $300,000.

ATTENTION

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DIRECT QUESTIONS RESULTING FROM ILLEGIBILITY TO:

U.S. EPA
OSWER - HSCD

RECORD OF DECISION

MILL CREEK, MONTANA

ANACONDA SMELTER SUPERFUND SITE

FIRST OPERABLE UNIT

OCTOBER 1987

Prepared by:
U.S. EPA
Region VIII
Montana Office

EPA

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RECORD OF DECISION FIRST AMENDMENT

Site Name and Location

Anaconda Smelter Site, First Operable Unit, Mill Creek, Montana

Description of Amendment

A health-based performance goal for drinking water at the tap in Mill Creek was erroneously included on page 48 in the October 2, 1987, Mill Creek, Montana, Record of Decision (ROD). This performance goal is not relevant for the selected remedy, as indicated on page IV.B. of Appendix D of the Mill Creek Feasibility Study.

Incorrect background levels of arsenic and cadmium in air of 0.23 ng/m^3 and 0.6 ng/m^3, respectively, were also identified for health-based performance goals on page 48 of the ROD. The correct numbers for background levels of arsenic and cadmium in air are 0.01 ug/m^3 for each element, as noted on page A-10 of Appendix D of the Mill Creek Feasibility Study.

A typographical error was made at the top of page 47 of the Mill Creek ROD. The second "bullet" point on the page should have been included in parentheses as part of the first.

On page 47 a typographical error was also made concerning the Federal Water Quality Criteria for copper. The incorrect value of 0.0055 mg/l for aquatic life is corrected to be 0.0065 mg/l.

The attached amended pages 47 and 48 are hereby substituted for the original pages in the October 2, 1987, ROD, in order to correct these errors.

In addition two additional documents are being added to the administrative record inventory because they were considered in development of the Mill Creek Endangerment Assessment. These documents are:

1. December 17, 1985 letter from Dr. Stephen Margolis, Acting Director, Office of Health Assessment, ATSDR, to Mr. Robert L. Duprey, Director Waste Management Division, Region VIII (Administrative Record File No. 2021708,100002 c and d).
2. Endangerment Assessment Mill Creek, Montana, Anaconda Smelter Site, Final Report, for Internal Review (Administrative Record File No. 2021708,100002b).

The Responsiveness Summary is also amended to address an additional issue as set forth below:

Comment Margolis (page 2, paragraph 6): "The Endangerment Assessment uses the unit risk derived from the Ott study of lung cancer as a 'reasonable upper limit' for estimating risk. These data have been rejected by EPA as unreliable for use in lifetime risk assessment (because of small numbers of deaths, most of them occurring in people with less than 1 year exposure) and should not be used in that way."

Response: The current endangerment assessment, as did the previous version, specifically points out that the Ott study data were eliminated prior to calculating the inhalation unit risk for arsenic.

James J. Scherer
Regional Administrator
EPA Region VIII

January 6, 1988
Date

Attachments

EXHIBIT 2

RECORD OF DECISION

MILL CREEK, MONTANA

ANACONDA SMELTER SUPERFUND SITE

FIRST OPERABLE UNIT

VOLUME I

OCTOBER 1987

EPA

RECORD OF DECISION

SITE NAME AND LOCATION

Anaconda Smelter Site, First Operable Unit - Mill Creek, Montana

STATEMENT OF PURPOSE

The purpose of this record of decision (ROD) is to select a remedial action for the community of Mill Creek, Montana. Mill Creek, Montana is an operable unit of the Anaconda Smelter National Priorities List (NPL) site. The Anaconda Smelter Site was placed on the NPL in September 1983. Mill Creek is located in southern Deerlodge County, southwestern Montana, approximately 25 miles west-northwest of Butte, Montana, 1.5 miles east of Anaconda, Montana and is immediately adjacent to the Anaconda Smelter.

Environmental and biologic testing show that the community of Mill Creek, Montana is the most contaminated inhabited area around the Anaconda Smelter NPL site. Mill Creek residents are constantly exposed to several media contaminated by arsenic, cadmium, and lead. Consequently, human health concerns in Mill Creek are EPA's highest priority for the Anaconda Smelter site. EPA has concluded that the contamination in the Mill Creek area poses an imminent and substantial endangerment to the health of individuals residing there. Exposure of children to ingestible forms of arsenic dust and cadmium, soil, and water in the Mill Creek community would likely result in elevated cancer risks. Exposure to cadmium and lead in soil and dust also can lead to adverse toxic affects on human health. The primary purpose of the selected remedy for Mill Creek is to provide adequate permanent protection for the health of current residents in Mill Creek, Montana and interim protection of future short-term visitors in the area. This record of decision document describes the selected first operable unit, interim remedial action for this site of permanent relocation with temporary site stabilization. This remedy was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of

1986 (SARA), and the National Contingency Plan. The State of Montana and the Federal Emergency Management Agency (FEMA) have concurred on the selected remedy of permanent relocation of Mill Creek residents with temporary site stabilization.

STATEMENT OF BASIS

This decision is based upon the administrative record which has been compiled for the Mill Creek Operable Unit, including the following documents:

- Final Remedial Investigation Report, Mill Creek Operable Unit, Anaconda Smelter Site, September 1987. Prepared by the Atlantic Richfield Company for U.S. EPA, Region 8.
- Final Feasibility Study Report, Mill Creek Operable Unit, Anaconda Smelter Site, September 1987. Prepared by the Atlantic Richfield Company for U.S. EPA, Region 8.
- Final Revised Endangerment Assessment: Mill Creek, Montana (Anaconda Smelter Site) September 1987. Prepared by Clement Associates, Inc. for U.S. EPA, Region 8.
- Summary of Remedial Alternatives Selection (attached hereto).
- Responsiveness Summary (attached hereto).
- Other reports, documents, correspondence, etc. included in the Administrative Record (see attached index).

DESCRIPTION OF SELECTED REMEDY

The remedy for Mill Creek, Montana selected by EPA is the interim first operable unit remedy of permanent relocation of all Mill Creek residents. Following relocation of all residents, the area will be temporarily stabilized. The contaminated soils in Mill Creek will be addressed as part of the remedy for the Anaconda Smelter NPL site. The contaminated debris from the relocation or demolition activities will be consolidated and temporarily stored with similar debris on Smelter Hill. Final disposition of these materials will be addressed as part of the final remedy for the Anaconda Smelter NPL site. Areas disturbed by the relocation/demolition activities will be regraded and revegetated. Operation and maintenance requirements for the selected alternative will include monitoring and maintenance of the vegetative cover used to stabilize disturbed areas and installation and maintenance of a fence around the perimeter of the site. Short term institutional controls to control access and land use will also be implemented.

The selected interim remedy provides adequate protection of the health of current residents of Mill Creek. This alternative is the most cost effective alternative considered and would result in the lowest estimate of excess risk to public health. This remedy is also environmentally preferable to all other remedies and is necessary because of the potential for recontamination of the Mill Creek area from wind blown dust from surrounding areas contaminated with arsenic, cadmium, and lead. A "cleanup" remedy at this time would therefore not be reliable over the long term. The selected remedy complies with all applicable or relevant and appropriate Federal and State requirements addressing the interim remedy of permanent relocation and temporary site stabilization. CERCLA sub-paragraph 121(d)(4)(a) allows the selection of a remedy that does not attain a level or standard of control at least equivalent to all legally applicable or relevant and appropriate Federal and State standards, requirements, criteria, or limitations if the remedial action selected is only part of a total remedial action that will attain such level or standard of control when completed. The Record of Decisions for subsequent operable unit(s) addressing Mill Creek will select applicable or relevant and appropriate requirements associated with permanent remedies. The evaluation and identification of such requirements in Remedial Investigation/Feasibility Studies do not represent final EPA determinations.

In accordance with Section 121(b) of CERCLA, alternative permanent solutions and alternative treatment technologies were evaluated (deep tilling, soil leaching, etc.). Review indicated that these treatment technologies did not adequately reduce surface contaminant levels below public health concerns. However, further testing is needed to evaluate other technologies. Innovative technologies and permanent remedies will be fully evaluated in RI/FS work for the final remedy at the Anaconda Smelter NPL site.

The Anaconda Smelter Superfund site consists of the Anaconda Old Works and Anaconda (Washoe) Smelter sites, the Arbiter Plant, numerous waste piles and waste ponds, various demolition dumps, and associated areas contaminated by aerial deposition of smelter stack emissions. The total Superfund site area covers several tens of square miles. Several operable units have been designated (40 CFR Sub-section 300.68(c)) based on similarities in the nature of the contamination, the location of the contaminated media and the ability of areas to be remediated under similar time frames. The Mill Creek Operable Unit is the first operable unit at the Anaconda Smelter site which has received focused attention over the past year owing to the highest documented level of environmental contamination of all communities in the area, the demonstrated exposure of Mill Creek children to smelter contaminants, and the associated risks to human health.

As previously stated, the purpose of the Mill Creek interim remedy is to provide adequate permanent protection for the health of current residents in Mill Creek, Montana and interim protection of the health of future short-term visitors in the area. Some environmental concerns will be addressed within the limits of the selected remedy. For example, fugitive dust will be minimized during house demolition and site revegetation efforts. However, regional contamination problems which may remain in Mill Creek after implementation of the interim remedy will be addressed under separate operable units. The final remedy for soils and ground water will be determined following the RI/FS reports for these remaining operable units.

As required by Section 121(d)(2) of CERCLA and 40 CFR Section 300.68, the final remedy will attain or exceed applicable or relevant and appropriate

Federal and State public health and environmental standards and will effectively minimize the release of hazardous substances into the environment so they do not migrate to cause substantial danger to present or future public health and the environment (40 CFR 300.68(a)(1).

DECLARATIONS

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and the National Contingency Plan for oil and hazardous substances (40 CFR Part 300), I have determined that the selected first operable unit interim remedy at the Anaconda Smelter site, Mill Creek, Montana operable unit:

- Provides adequate permanent protection for the health of current Mill Creek residents and adequate interim protection for the health of short-term visitors to the area.
- Complies with all applicable or relevant and appropriate State and Federal requirements pertaining to the interim remedy of permanent relocation and temporary site stabilization.
- For the purpose of the interim first operable unit for Mill Creek, the RI/FS adequately evaluated permanent treatment and alternative treatment technologies for the purposes of SARA. The statutory preference for treatment that reduces toxicity, mobility, or volume will also be fully addressed in RI/FS work for later operable units.
- Is consistent with CERCLA requirements governing remedial action (sub-paragraph 121(d)(4)(a), provided the remedial action selected is part of a total remedial plan that will achieve a set level or standard of control when completed;
- Is cost effective; and
- Will be consistent with the final remedy for the Anaconda Smelter site.

This remedy is more cost effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition off-site of the hazardous substances (Section 101(24) of CERCLA). The

State of Montana has been consulted and concurs with the approved remedy. In addition, the action will require minimal future operation and maintenance activities to ensure the continued effectiveness of the remedy. These activities will be considered part of the approved action. EPA has not reached agreement with the responsible party at the site to implement the selected remedy; however, the responsible party has reached an agreement with several residents to purchase their property and continues to negotiate with the 8 remaining families in the community. See attached confidential enforcement analysis.

James J. Scherer
Regional Administrator
EPA Region VIII

October 2, 1987
Date

Attachments

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

This part of the Record of Decision (ROD), summarizes the information EPA used and the evaluations conducted to support the selection of the interim remedy for Mill Creek, Montana. In addition to the summary text, Attachments I, II, III, and IV provide EPA's: Responsiveness Summary, Statement of Findings for Floodplains and Wetlands, Confidential Enforcement Analysis, and Administrative Record Index, respectively. This information collectively is EPA's record of decision supporting the selection of permanent relocation with temporary site stabilization as the interim remedy for Mill Creek, Montana.

I. SITE LOCATION AND DESCRIPTION

The unincorporated community of Mill Creek is located in southwestern Montana at the southern end of Deer Lodge Valley approximately 25 miles west-northwest of Butte, Montana and about 1.5 miles east of Anaconda, Montana (Figure 1). The study area is located immediately adjacent to the Anaconda Smelter.

Mill Creek (also known as Silica), Montana is located immediately adjacent to the Anaconda Smelter site. The community covers an area of 160 acres, 70 of which are owned by the Anaconda Minerals Company (AMC). Most of the surrounding lands are owned by AMC (Figure 2).

The principal ground water bearing structure in the immediate vicinity of the site is a shallow alluvial aquifer consisting of characteristically coarse grained fan and floodplain deposits that are moderatly permeable and hydraulically connected with surface streams. The study area is in the Mill Creek drainage, a tributary of Silver Bow Creek, which flows directly through the Warm Springs tailing pond complex.

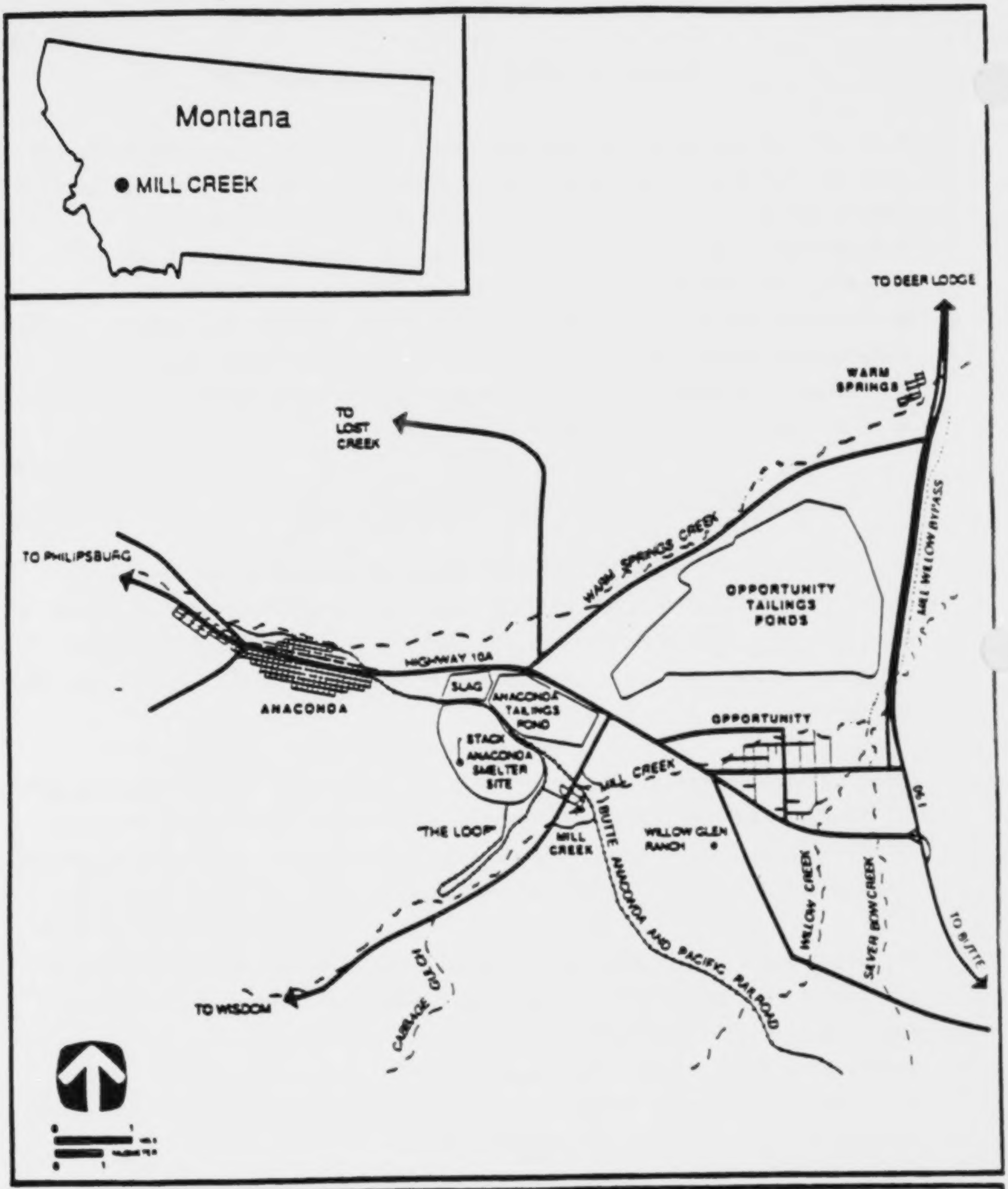
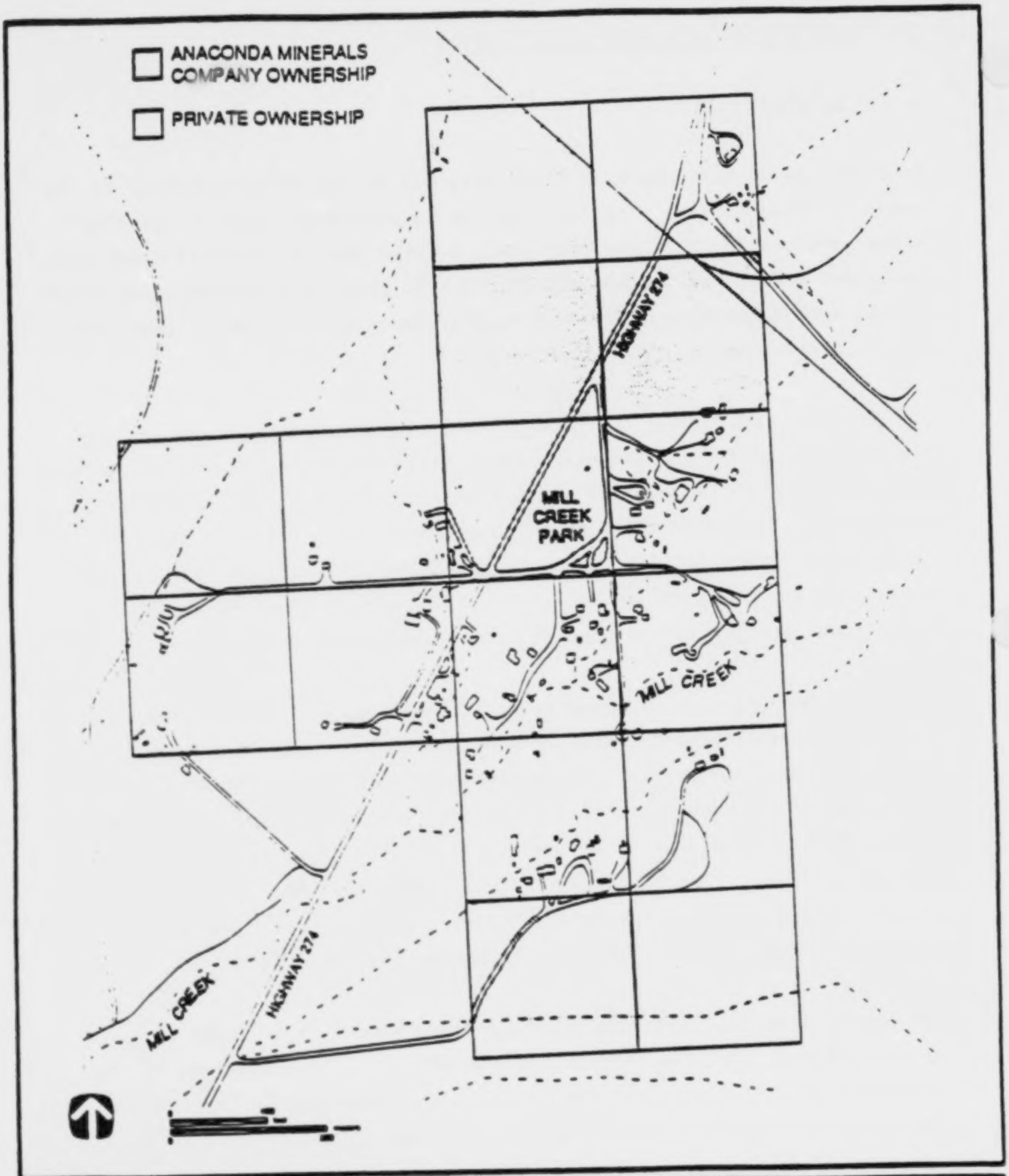

Montana
MILL CREEK
TO DEER LODGE
WARM SPRINGS
TO LOST CREEK
TO PHILIPSBURG
WARM SPRINGS CREEK
OPPORTUNITY TAILINGS PONDS
MILL WILLOW BYPASS
HIGHWAY 10A
SLAG
ANACONDA TAILINGS POND
ANACONDA
OPPORTUNITY
STACK
ANACONDA SMELTER SITE
MILL CREEK
"THE LOOP"
MILL CREEK
BUTTE ANACONDA AND PACIFIC RAILROAD
WILLOW GLEN RANCH
I-90
WILLOW CREEK
SILVER BOW CREEK
TO BUTTE
TO WISDOM
CABBAGE GULCH

Figure 1. Location of Mill Creek and surrounding communities.



ANACONDA MINERALS COMPANY OWNERSHIP
PRIVATE OWNERSHIP
HIGHWAY 274
MILL CREEK PARK
MILL CREEK
MILL CREEK
HIGHWAY 274

Figure 2. Subdivision of lots in the community of Mill Creek, MT.

II. SITE HISTORY AND CURRENT SITE STATUS

A. Site History

Residents moved into the Mill Creek area due to its close proximity to the Anaconda Smelter site. The first filing on record for land in the Mill Creek area was in 1902. By 1916-1917, a large part of the Mill Creek area contained tents, log houses, and shacks. By 1918, a schoolhouse was moved to the Mill Creek community. Eventually, the community was divided into the Millview lots, as shown in Figure 2.

The Anaconda Smelter was operated for nearly a century beginning in 1884 and ceasing in 1980. The smelter was initially operated by the Anaconda Copper Company (later renamed the Anaconda Company), and its predecessors in interest. The Anaconda Company merged with the Atlantic Richfield Corporation (ARCO) in 1977. ARCO operated the smelter from 1977 to 1980 and continues to own the former smelter site and surrounding areas near Mill Creek through its Anaconda Minerals Company operating unit.

Ore and concentrates were processed in the Old Works, Arbiter, and Washoe Works at various times between 1884 and 1980. Ore processing to anode copper produced wastes that have spread over more than 6,000 acres and contain elevated concentrations of arsenic, cadmium, copper, lead, and zinc. ARCO has estimated that the wastes include about 185 million cu. yds. of tailings, 27 million cu. yds. of granulated slag, and 0.25 million cu. yd. of flue dust. Locations of waste piles of these materials in relation to the community of Mill Creek are shown on Figure 3.

The Anaconda Smelter site was listed on the National Priorities List (NPL) on September 8, 1983 (48 Federal Register 40658). Contamination of the community of Mill Creek was identified as a problem during the Phase I remedial investigation. The community has been contaminated from over 100 years of smelter emissions, fugitive emissions of flue dust located at the smelter, and continued fugitive emissions from adjacent highly contaminated

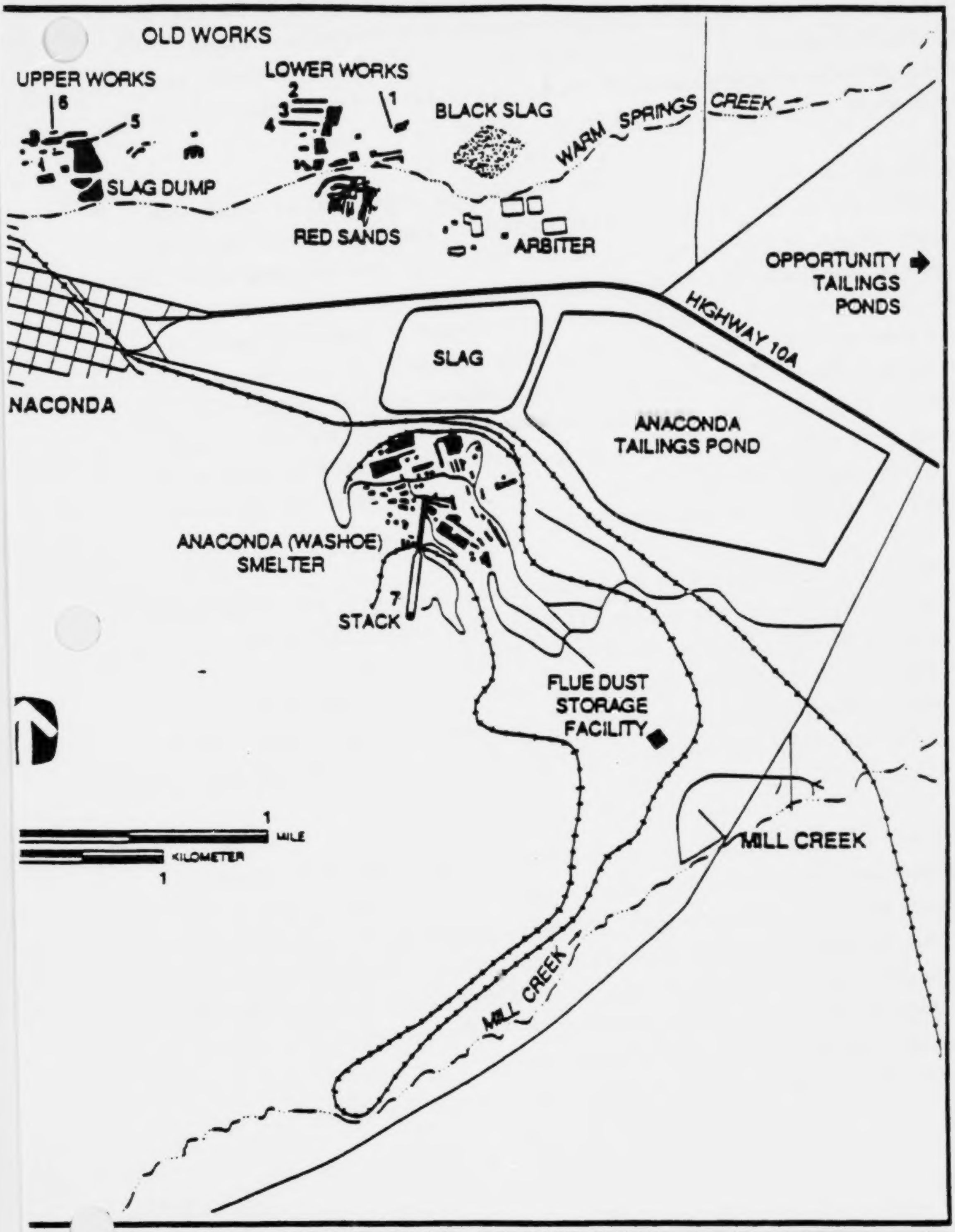

OLD WORKS
UPPER WORKS
LOWER WORKS
1
2
3
4
5
6
BLACK SLAG
WARM SPRINGS CREEK
SLAG DUMP
RED SANDS
ARBITER
OPPORTUNITY TAILINGS PONDS
HIGHWAY 10A
SLAG
NACONDA
ANACONDA TAILINGS POND
ANACONDA (WASHOE) SMELTER
7
STACK
FLUE DUST STORAGE FACILITY
1
MILE
KILOMETER
1
MILL CREEK
MILL CREEK

Figure 3. Location of Anaconda Smelter facilities in relation to Mill Creek.

soils. During soil sampling of communities in the vicinity of the smelter, in accordance with CERCLA Section 106 Administrative Order on Consent (CERCLA-VIII-84-06), it was discovered that Mill Creek had extremely high levels of arsenic and other heavy metal contaminants when compared to other communities in the area.

The Center for Disease Control (CDC) showed that pre-school children from the community of Mill Creek had greater arsenic exposure than children of another community in the Anaconda area. This conclusion was made after CDC conducted urine sampling in March 1985. Sampling was continued in July of 1985. This urine survey showed that a CDC attempt to reduce exposure to house dust in Mill Creek did not reduce the children's urinary arsenic levels, and the levels in the Mill Creek children remained higher than those of children in any other community studied. These elevated urinary arsenic levels persisted in spite of house cleaning efforts designed by the CDC and recommendations by both CDC and EPA to residents on how to reduce exposure of children to contaminated materials.

Mean urinary arsenic levels in Mill Creek decreased after several residents were relocated. No persons tested after the move had urinary arsenic levels above 50 ug/l, a concentration which CDC considered to be a "level of concern". The fact that children's urinary arsenic levels before the move were so much greater than the levels for adults is consistent with the hypothesis that children can serve as a sentinel population in certain circumstances.

A detailed, quantitative endangerment assessment was prepared by Clement and Associates, Inc. for Mill Creek, Montana (in April 1986). This assessment evaluated the actual and potential exposures of the residents in Mill Creek to hazardous substances through soil, air, drinking water, and household dust pathways. The results of this study and the CDC study led EPA to sign an Action Memorandum on April 29, 1986, requesting funding to temporarily relocate high risk residents of Mill Creek and remove them from the threat of harmful exposure posed by the Anaconda Smelter site.

Residents of fourteen households have been temporarily relocated under this action. A urinary arsenic survey was conducted after residents were relocated in the Fall of 1986. Mean urinary arsenic levels in Mill Creek decreased after residents were relocated. Although 5 individuals had urinary arsenic levels above 50 ug/l (considered to be a "level of concern") prior to the move, none had urinary arsenic levels above 50 ug/l after relocation from Mill Creek. The CDC stated that strictly speaking, one cannot infer from the data that excess arsenic exposure has ceased, except for around the time of testing. Nevertheless, CDC believes that their sampling was representative of exposures generally occurring in our study population and that the relocation has effectively decreased exposure. The quantitative endangerment assessment was revised in October of 1987 and continues to indicate significant risks.

In July 1986, AMC agreed to implement an expedited RI/FS focusing on the human health issues only. Subsequent operable units (regional soils and regional ground water) will completely address other issues and other areas of the Anaconda Smelter site. This expedited RI/FS was conducted under a CERCLA S106 Administrative Order on Consent (Docket No. CERCLA VIII-86-07).

During the conduct of the RI/FS, ARCO negotiated with the Mill Creek residents to permanently relocate them from the town. ARCO has successfully reached agreement with all but eight of the families and continues to negotiate with those remaining.

B. Quantity, Type, and Concentration of Hazardous Substances Present

The principal waste sources that have contributed to contamination in Mill Creek are the result of Anaconda Smelter operations that have occurred for nearly 100 years. These sources include historic stack and fugitive emissions and ongoing fugitive emissions from contaminated areas surrounding the Anaconda Smelter. Information on arsenic and heavy metals concentrations (ug/g) of the various waste sources is listed below.

	Arsenic	Cadmium	Lead
Flue dust	49,900-69,600	1,130-1,300	9,790-14,600
Slag	498-3,190	4.4-44	364-4,310
Opportunity Tailings	36-535	1.5-46.5	<10-2,290

Analysis of soil, dust, air, and water samples collected to date at the Mill Creek site show extensive contamination by Anaconda Smelter wastes. Of primary concern are elevated concentrations of arsenic and heavy metals in soils, drinking water, and household dust, with corresponding elevated urinary arsenic levels of children (two to six years old) in Mill Creek.

C. KNOWN OR SUSPECTED RISKS

The community of Mill Creek was originally comprised of approximately 36 households and had a permanent population of less than 100 people. As a result of temporary relocation efforts by EPA and ARCO's buyout program, only 8 residences are currently occupied. The risk estimates summarized below are based in part on the assumption that children between the ages of one to six years old are living in Mill Creek, Montana. This was the case until the summer of 1987 when ARCO voluntarily permanently relocated the families with children of that age. EPA has continued to use the assumption of the presence of children because of the potential that additional children could move into Mill Creek or be born in Mill Creek.

EPA has identified significant public health risks for children and adults posed by exposure to arsenic and heavy metals in soil, drinking water, air, and households in the community of Mill Creek. The toxicological properties of arsenic, cadmium, copper, lead, and zinc are fully discussed in the Mill Creek endangerment assessment.

Arsenic is a known carcinogen that has been associated with an increased frequency of skin cancer when ingested, and lung cancer when inhaled. Cadmium has been associated with an increased frequency of lung cancer in humans when inhaled. Arsenic and cadmium can be acutely or chronically toxic, and can be fatal if ingested or inhaled in sufficient quantities by humans, livestock, and wildlife.

Other hazardous substances of concern at the site include lead, copper, and zinc. Lead is a cumulative poison which can cause neurological, kidney, and blood cell damage in humans. Some lead compounds are also animal carcinogens adversely affecting the lungs and kidneys. At elevated levels, some copper and zinc compounds are toxic to a number of animal species, including humans. Copper and zinc are particularly toxic to fish. Severe illness and/or death can result from exposure of humans, livestock, and wildlife to toxic levels of arsenic, cadmium, and lead.

Currently, there are no uniform national standards identifying what constitutes a hazardous level of arsenic in soil. Therefore, it was necessary to estimate the levels of carcinogenic risk posed by potential exposure to arsenic in the community of Mill Creek, Montana.

The carcinogenic risk was calculated in accordance with EPA's current guidelines for carcinogenic risk assessment. The cancer potency factor was multiplied by the average lifetime exposure in mg/kg/day, to yield estimates of lifetime excess risks of cancer resulting from exposure. Geometric mean concentrations of arsenic, cadmium, and lead in each medium were used in average case risk estimates, whereas maximum concentrations for these substances in each medium were used in reasonable maximum risk estimates. For arsenic and cadmium, daily chemical intake for soil ingestion, drinking water, and the non-respirable fraction of the inhalation pathway were summed in order to determine cumulative exposure for each substance. In the case of lead, a multimedia exposure model developed in the Mill Creek endangerment assessment was used to linearly estimate average and reasonable maximum blood lead concentrations in children. Finally, the cumulative risk estimates for individual substances were used to assess potential risks associated with multiple chemical exposures. Carcinogenic risks for multiple chemical exposure were determined by adding cadmium and arsenic lung cancer risks. Because of the difference in the two target organs, potential skin cancer risks associated with arsenic ingestion were considered independently from lung cancer risks.

Non-carcinogenic risks for multiple chemical exposure were estimated by calculating a cumulative hazard index for ingested cadmium, and inhaled or ingested lead.

Using this approach, EPA evaluated the risk associated with the no action alternative for the Mill Creek operable unit in the October, 1987 Revised Final Endangerment Assessment for Mill Creek, Montana. Using the average exposure scenario, the excess risk from all exposure pathways of developing skin cancer in Mill Creek is 1.5×10^{-4}. Similarly, for the reasonable maximum exposure scenario the excess skin cancer risk is 2.8×10^{-3}. With respect to lung cancer from all exposure pathways, the excess cancer risk for the average and reasonable maximum exposure scenarios is 1.0×10^{-4} and 1.6×10^{-3} respectively.

The cumulative hazard index for cadmium ingestion and lead exposure ranged from 0.73 in the average case analysis to 1.96 in the reasonable maximum case analysis. The hazard index assumes simple additivity of effects and provides a numerical indication of the nearness to acceptable limits of exposure or the degree to which acceptable exposure levels are exceeded (U.S. EPA 1986a). A hazard index greater than 1.0 suggests that exposure to an individual substance or all substances collectively exceed a generalized level of concern for a common toxicological endpoint or target organ.

EPA has concluded that the elevated arsenic levels in the urine of the children formerly living in Mill Creek demonstrate that they were exposed to elevated levels of arsenic and other metals associated with the smelter. The estimated rate of intake of arsenic (estimates reinforced by the arsenic levels found in their urine) suggests that the children's exposure.

if continued, would pose substantial risks of adverse health effects, including cancer. EPA believes that any children moving into or born in Mill Creek in the future would be subjected to similar exposure and risks.

No quantitative biologic data have been collected which indicate excess exposure of adults to smelter related contaminants. Adults may ingest contaminated soil, but they are less likely to be exposed via this route than are children. Exposure of adults would occur by inhalation of airborne contaminants in ambient and household air, and by consumption of contaminated drinking water. These exposure routes would contribute to an individual's lifetime cumulative dose and may add to substantial risks already incurred as children.

The available data do not definitively indicate the presence of acute exposures to arsenic that might cause other adverse health effects, such as skin lesions or neurological impairment; but such effects could occur if sufficient amounts of the contaminants were ingested or inhaled.

Exposure of children in Mill Creek to lead via inhalation and ingestion would be sufficient to potentially increase their blood levels of lead to a range at which they could be at risk of behavioral or neurological effects. Although the levels of cadmium in water and soil samples from the town of Mill Creek are high enough to cause concern, this contaminant may also have an additive or potentiating effect on other metal contaminants present in the environment.

EPA is in the process of revising its position on the carcinogenic unit risk factor for ingested inorganic arsenic. Under any scenario for revision considered by EPA, significant health risks associated with ingestion of arsenic exist in Mill Creek. The most current published EPA position on the degree of carcinogenicity of ingested arsenic is in the draft "Special Report on Ingested Arsenic and Certain Human Health Effects", EPA Risk Assessment Forum, October, 1986. This report was relied on in the Mill Creek RI/FS and Endangerment Assessment as well as this

Record of Decision. EPA also considers the cumulative carcinogenic and toxic risk posed by ingestion of arsenic, lead, and cadmium in soil; drinking water; and inhaled and later swallowed particulate matter to independently warrant remedial action. Significant risks of lung cancer from inhalation of arsenic and cadmium also warrant action.

The contamination of the Mill Creek area poses an imminent and substantial endangerment to the health of any children who may reside there (Clement 1987). Exposure of adults to ingestible forms of arsenic in dust, soil, water, and food in the Mill Creek community would most likely result in additional elevated cancer risks. Exposure to cadmium and lead in soil and dust may also have adverse effects on human health and the environment.

D. Extent of Contamination

Contamination of soils in the community of Mill Creek is widespread. A number of investigations have been conducted to determine the spatial and vertical distribution of arsenic and heavy metals in soils in and around the community of Mill Creek. An inventory of soils studies for the Mill Creek RI/FS is provided in Table 1. Results of soil analyses for Mill Creek and surrounding communities are summarized in Table 2. The geometric mean concentration of arsenic, cadmium, and lead in Mill Creek surface soils are 638 mg/kg, 25 mg/kg, and 508 mg/kg. These mean values are substantially higher than those for surrounding communities (Table 2).

The spatial distribution of contaminants in the Mill Creek area is somewhat heterogeneous, but widespread. Figures 4, 5, and 6 illustrate the distribution of arsenic, cadmium, and lead in surface soils in the Mill Creek area.

Soil profile samples were also collected by AMC as part of the Mill Creek RI/FS. Summary statistics for arsenic, cadmium, and lead in soil profile samples are compiled in Table 3. Although the profiles were sampled to varying depths and a few were sampled in different increments, the data

TABLE 1. INVENTORY OF SOILS STUDIES FOR THE MILL CREEK STUDY AREA

Sampler	Project	Sampling Date	Number of Samples	Location	Sample Depth (in)	Analytical Lab	Analytical Techniques	No. of Level B Samples[1]	Elements Analyzed	Horizontal Composite	Sample Method
Anaconda Minerals Company (AMC)	Screening study	Sept 1982	1	AMC property	0-1/2	EPA-NEIC	HF/aqua regia	0	As, Cd, Cr, Cu, Pb, Sb, Zn	No	Trowel
Tetra Tech	Health effects soils study Anaconda RI/FS	Dec 1984	4	2 in Mill creek yards; 1 on AMC property; 1 near southernmost Mill Creek houses	0-1	California Analytical	Nitric peroxide	1	As, Cd, Cu, Pb, Zn	Yes	Pick and shovel, plastic scoops
Tetra Tech	Mill Creek yard sampling Anaconda RI/FS	Oct 1985	3	3 Mill Creek yards	0-2	Weyerhaeuser Analytical Laboratories	Nitric peroxide	0	As, Cd, Pb	Yes	Shovel, plastic scoops
Tetra Tech	Phase II soils Anaconda RI/FS	Sept-Oct 1985	1 1 1	1 profile on AMC property	0-2 2-10 10-25	Weyerhaeuser Analytical Laboratories	Nitric peroxide	0 0 0	As, Cd, Cu, Fe, Mn, Pb, Zn	Yes	Stainless knife scoops, plastic bowls
Ecol. and Environ. (EPA FIT Team)	CDC study	June 1985	10	5 Mill Creek yards	0-1	Rocky Mtn. Analytical	Nitric peroxide	10	As, Cd, Cu, Pb, Zn	Yes	Stainless steel spoon
Weston-Sper (EPA TAT Team)	Fast track program	Feb-March 1986	65 8	Mill Creek yards	0-2	Weyerhaeuser Accu-Labs	Nitric peroxide Nitric peroxide	0 16	As, Cd, Cu, Pb, Zn As, Cu, Pb, Zn	No	Shovel, pick, stainless spoon and trowel
Weston-Sper (EPA TAT Team)	Fast track program	April 1986	23 7	Mill Creek yard surface and surrounding AMC property Mill Creek yard and AMC property subsurface samples	0-2, 0-3, or 0-4 to 15 in	Wilson Labs	Nitric peroxide	23 0	As, Cu, Pb, Zn	No	Split spoon sampler and stainless spoon; split spoon sampler
Weston-Sper (EPA TAT Team)	Fast track program	April 1986	43	Mill Creek yard surface and surrounding AMC property	0-2, 0-3, 0-3.5, 0-4, or 0-5 to 15 in	Camp, Dresser and McKee	Nitric peroxide	0 17	As, Cu, Pb, Zn	No	Split spoon sampler and stainless spoon
Tetra Tech	Mill Creek RI/FS soil leach bench test	June 1986	3 27	3 leach test profiles (1 south end Mill Creek, 1 west of Mill Creek Park, 1 center Mill Creek)	0-3 3 in intervals to 30 in	Weyerhaeuser Analytical Laboratories	Nitric peroxide	0 0	As, Cd, Pb	No	Stainless knife, plastic scoops, bowls
Tetra Tech	Mill Creek RI/FS deep till pilot test	June 1986	52 26	Deep till plots west of Mill Creek Park on AMC property	0-3 3 in intervals to 18 or 24 in	Weyerhaeuser Analytical Laboratories	Nitric peroxide	0 0	As, Cd, Cu, Pb, Zn	No	Stainless knife, plastic scoops, bowls
Tetra Tech	Mill Creek RI/FS yard profile survey	July 1986	7 49 14	1 profile in each of 7 Mill Creek yards	0-3 3 in intervals to 24 in 12 in intervals to 48 in	Weyerhaeuser Analytical Laboratories	Nitric peroxide	0 0 0	As, Cd, Pb	No	Stainless knife, plastic scoops, bowls

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[1] Additional Soil Profile data were unqualified by EPA using statistical comparisons (U.S. EPA, 1987). These data are considered level B quality and are utilized in support of the cost analysis in the Mill Creek FS.

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TABLE 2. COMPARISON OF METALS CONCENTRATIONS IN SURFICIAL SOILS AT MILL CREEK WITH OTHER NEARBY COMMUNITIES[a]

Area	Number of Samples	Range (mg/kg)	Geometric Mean (mg/kg)
Mill Creek			
As	177	25-4,080	638
Cd	146	2-145	25
Pb	177	12-2,910	508
Anaconda			
As	23	28-345	114
Cd	23	1-20	6.8
Pb	23	28-1,510	229
Warm Springs			
As	5	20-96	35
Cd	5	<0.4-5.9	1.8
Pb	5	12-297	61
Opportunity			
As	14	16-370	106
Cd	14	1-15	4.7
Pb	14	24-5,760	141
Philipsburg[b]			
As	3	11-13	12
Cd	3	0.7-1	0.8
Pb	3	21-28	23
Townsend[c]			
As	3	3.4-5.7	4
Cd	3	0.8-1.4	1.1
Pb	3	30-55	39

[a] Both qualified and unqualified data (U.S. EPA 1987).

[b] Control community located 30 mi north of Mill Creek.

[c] Control community located 110 mi northeast of Mill Creek.

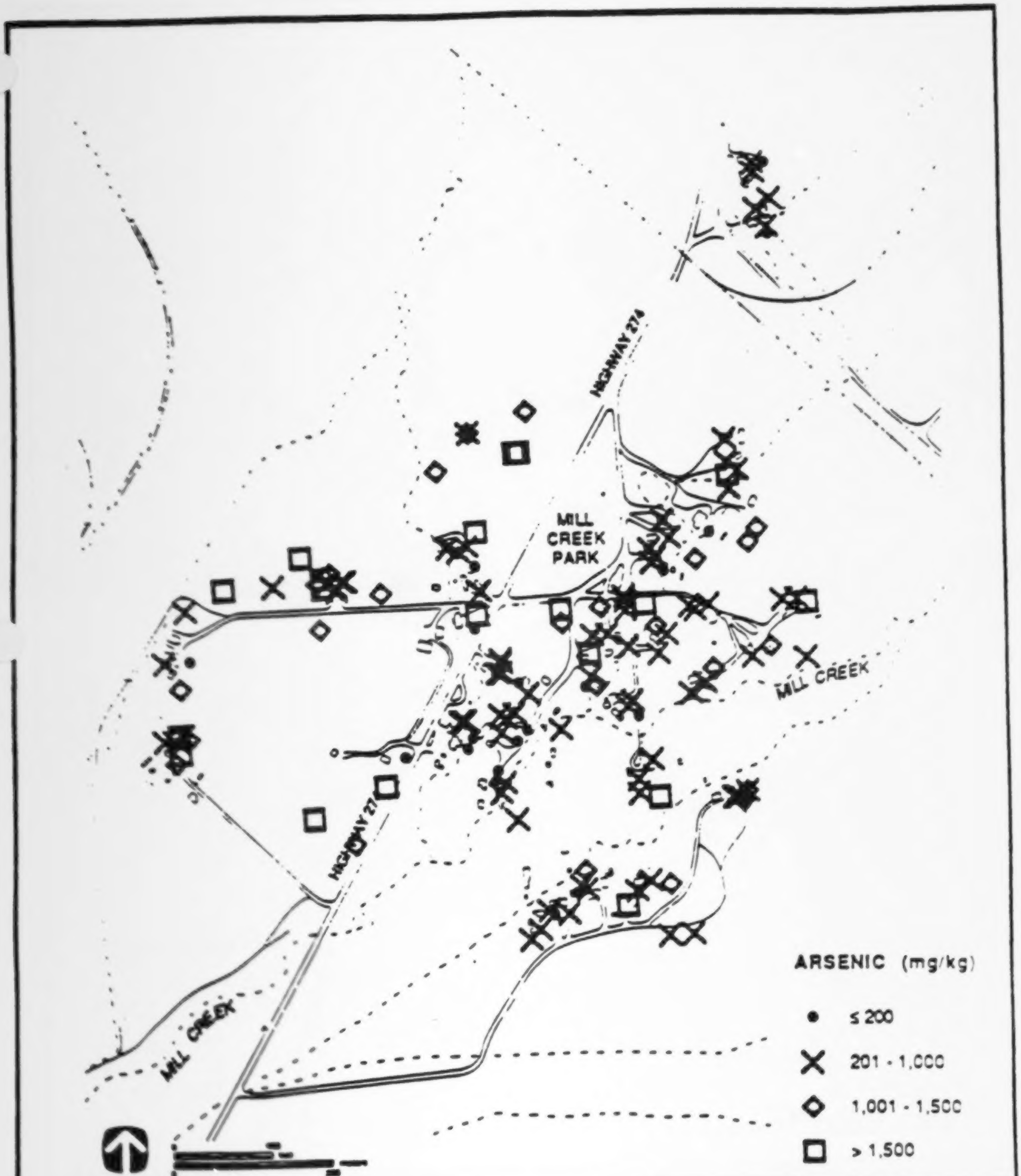
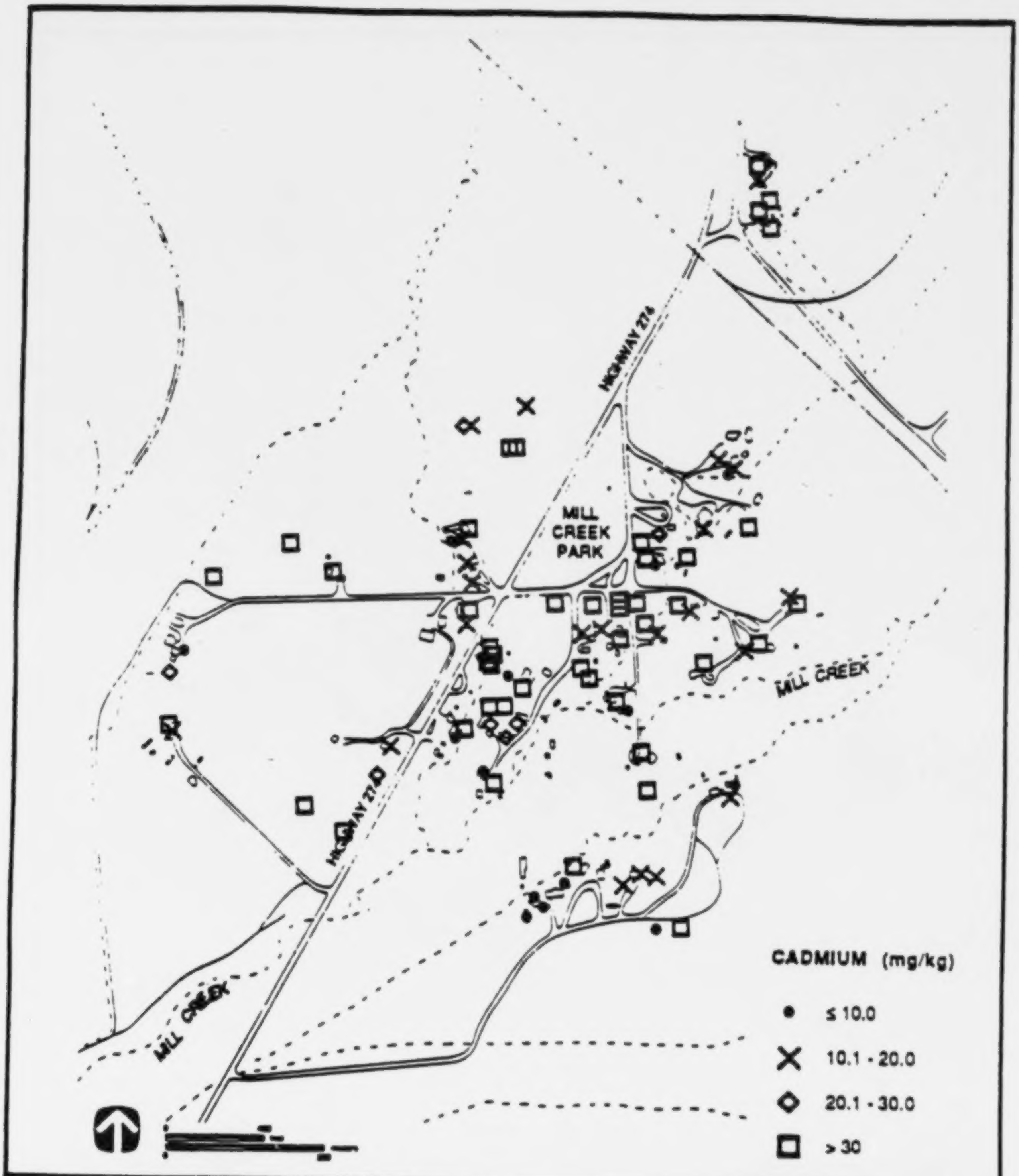

HIGHWAY 274
MILL CREEK PARK
MILL CREEK
HIGHWAY 27
MILL CREEK
ARSENIC (mg/kg)
● ≤ 200
× 201 - 1,000
◇ 1,001 - 1,500
□ > 1,500

Figure 4. Surface soil arsenic distribution.



HIGHWAY 27-A
MILL CREEK PARK
MILL CREEK
HIGHWAY 27-D
MILL CREEK
CADMIUM (mg/kg)
● ≤ 10.0
X 10.1 - 20.0
◇ 20.1 - 30.0
□ > 30

Figure 5. Surface soil cadmium distribution.

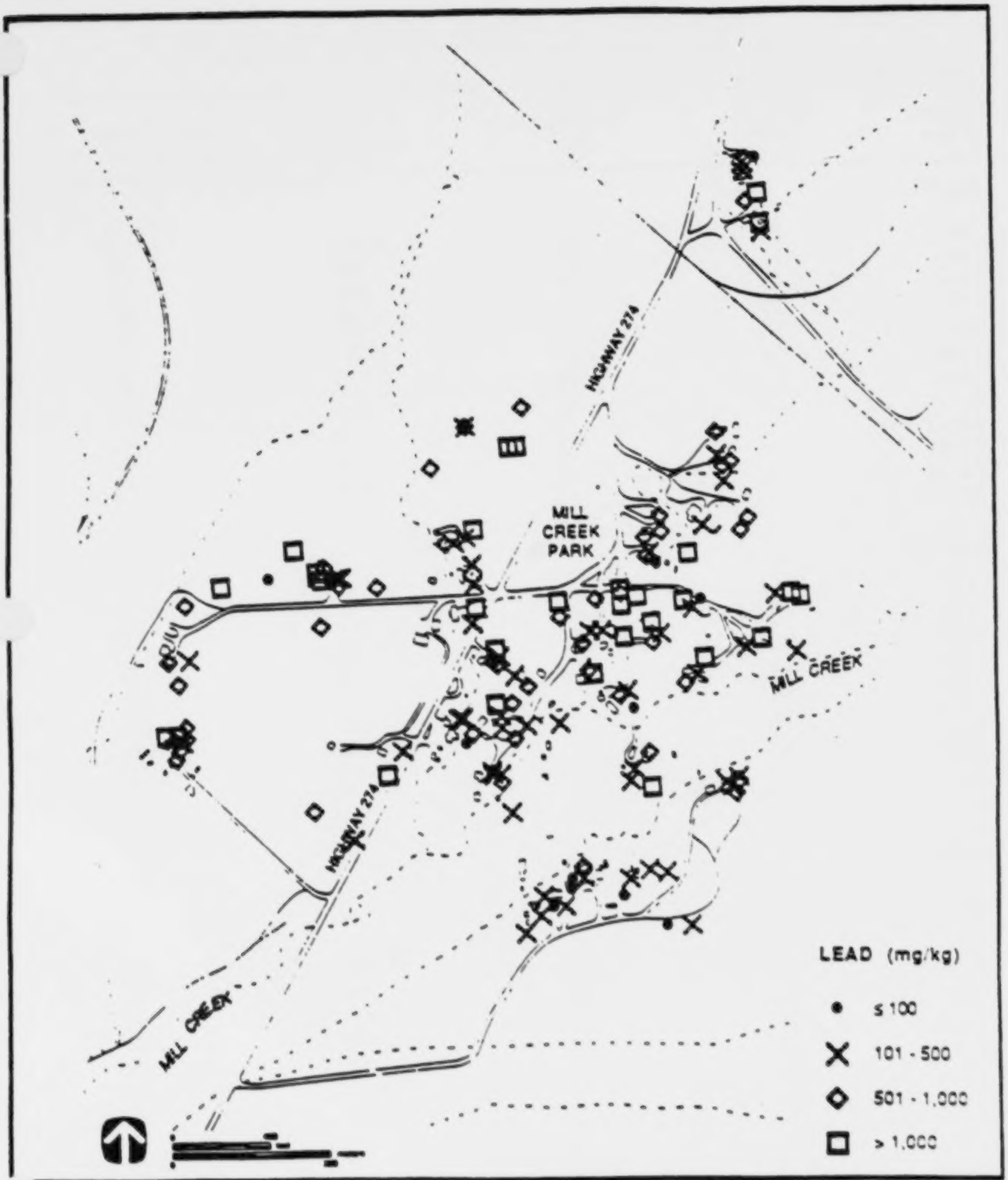

HIGHWAY 274
MILL CREEK PARK
MILL CREEK
HIGHWAY 274
MILL CREEK
LEAD (mg/kg)
● ≤ 100
✕ 101 - 500
◇ 501 - 1,000
□ > 1,000

Figure 6. Surface soil lead distribution.

TABLE 3. CONCENTRATIONS OF ARSENIC, CADMIUM, AND LEAD (mg/kg) FOR ALL MILL CREEK SOIL PROFILES BY DEPTH INCREMENT

Depth (in)	Sample Size	Geometric Mean	Maximum	Coefficient of Variation (%)
Arsenic				
0-3	16	592	2,650	12
3-6	16	273	780	12
6-9	16	186	840	15
9-12	15	132	1,020	21
12-15	14	88	320	21
15-18	14	74	2,600	33
18-21	13	55	720	31
21-24	13	53	165	22
24-27	3	15	74	41
27-30	3	8	74	87
24-36	7	47	100	19
36-48	7	22	60	31
Cadmium				
0-3	14	17	51	25
3-6	14	11	31	35
6-9	14	3	24	102
9-12	14	2	18	179
12-15	14	1	11	268
15-18	14	1	23	484
18-21	13	1	8	17,992
21-24	13	1	12	1,106
24-27	3	1	1	--
27-30	3	1	1	--
24-36	7	1	8	1,550
36-48	7	1	1	--
Lead				
0-3	16	369	1,750	17
3-6	16	68	740	33
6-9	16	29	558	42
9-12	15	20	548	39
12-15	14	11	179	34
15-18	14	12	943	52
18-21	13	11	354	45
21-24	13	11	28	25
24-27	3	10	13	15
27-30	3	8	17	26
24-36	7	10	17	13
36-48	7	6	10	14

show similar trends. Arsenic is concentrated in the top six inches. In the majority of the soil profiles, arsenic concentrations are below 100 mg/kg at 18 inches, and approach background levels established for this area below 42 inches.

For cadmium and lead, the highest concentrations are also found in the top six inches of the profiles. However, cadmium and lead concentrations decrease more rapidly with depth than do arsenic concentrations. In the majority of the profiles, cadmium levels are less than detection limits (1.2 or 1.5 mg/kg) below nine inches, and lead levels are within the range of background concentrations below six inches.

Quarternary alluvial deposits underlie the Mill Creek site and supply domestic well water for the area. The water table beneath Mill Creek is generally 20 feet or deeper below the ground surface depending upon seasonal flow. Domestic tap water in Mill Creek has been sampled on three occasions. The first sampling occurred on December 5 and 17, 1985, and the second on May 20 and 21, 1986, and a third set of samples were collected on March 24 and 25, 1987.

Results of water analyses are shown in Table 4. All household tapwater analyses were within U.S. EPA primary drinking water criteria and State of Montana primary drinking water standards for arsenic, cadmium, and lead. However, during the May 1986 sampling, seven household water supplies were found to have detectable arsenic levels (Table 4). Cadmium and lead concentrations were generally at or below detection limits. From a multiple exposure standpoint all contributions to arsenic exposure are important to consider. It is likely that wells yielding arsenic contaminated waters are locally contaminated from soils introduced into the wells.

Mill Creek, the major surface drainage system in the area, was sampled four times between April 1985 and April 1986, as part of the smelter investigation. Sampling station locations are shown in Figure 7. Arsenic

TABLE 4. MILL CREEK WELL WATER ANALYSES

HOUSE NO.	DEC 1985 SAMPLE NO.	MAY 1986 SAMPLE NO.	MARCH 1987 SAMPLE NO.	TOTAL/ DISS.	(Dec 5 & 17, 1985) DEC 1985 SAMPLE (ug/L)			(May 20, 21 1986) MAY 1986 SAMPLE (ug/L)			U.S. EPA SAMPLE (March 24,25 1987) (TOTAL) MARCH 1987 SAMPLE (ug/L)				WELL DEPTH (ft)	COMMENTS
					As	Cd	Pb	As	Cd	Pb	As	Cd	Pb	Hg		
1	MC-18	MC-117	228-GW-001	T	11	< 2	< 3	4	< 5	< 3	2	0.56	< 1	<0.2	88	Drilled 25 yr ago
				D	5	6	12	4	< 5	< 3						
2	MC-17	MC-101	228-GW-002	T	19	< 1	2	8.1	< 5	< 3	10	0.63	< 1	<0.2	58	Hand dug - probably around 1910
				D	20	< 1	1	7.9	< 5	4						
3	MC-1	MC-103	228-GW-003	T	<10	< 1	< 1	4	< 5	3	2.2	0.76	< 1	<0.2	96	36 to 40 yr old
				D	<10	1	1	< 4	< 5	3						
4		MC-102	228-GW-004	T				< 4	< 5	< 3	1.4	0.72	< 1	<0.2	96	Shares well with House No. 3
				D				< 4	< 5	4						
6	MC-2	MC-104		T	< 5	< 2	5	< 4	< 5	< 3					70	
				D	< 5	< 2	< 3	< 4	< 5	< 3						
7	MC-3	MC-105	228-GW-007	T	<10	< 1	< 1	< 4	< 5	< 3	< 1	0.54	< 1	<0.2	62	12 yr old
				D	<10	1	1	< 4	< 5	< 3						
11	MC-6	MC-107		T	< 5	< 2	< 3	< 4	< 5	< 3					82	
				D	< 5	< 2	< 3	< 4	< 5	< 3						
12	MC-5	MC-125		T	<10	1	3	< 4	< 5	< 3						
				D	11	2	3	< 4	< 5	< 3						
13	MC-4	MC-108		T	<10	< 1	1	< 4	< 5	< 3					60	At least 7 yr old
				D	<10	1	1	< 4	< 5	< 3						
14		MC-126		T				< 4	< 5	< 3						Hauls water from Anaconda
				D				< 4	< 5	< 3						
15	MC-14	MC-109		T	< 5	< 2	< 3	< 4	< 5	< 3					110,120	Well #1, 10 yr old; Well #2, 15 yr old
				D	< 5	6	< 3	< 4	< 5	< 3						
21		MC-112		T				< 4	< 5	4						
				D				< 4	< 5	< 3						
17	MC-19	MC-110		T	27	2	9	< 4	< 5	7					60	Drilled
				D	<10	2	4	< 4	< 5	3						
18		MC-129		T				21	< 5	< 3						Share well with House No. 19, 15 yr old
				D				19	< 5	< 3						
20	MC-22	MC-111	228-GW-020	T	< 5	< 2	< 3	< 4	< 5	< 3	< 1	0.68	< 1	<0.2	115	25 yr old
				D	< 5	< 2	< 3	< 4	< 5	< 3						
23	MC-10	MC-113		T	< 5	< 2	< 3	< 4	< 5	< 3						Approximately 20 yr old
				D	< 5	< 2	< 3	< 4	< 5	< 3						
27	MC-21	MC-114	228-GW-027	T	< 5	< 2	< 3	< 4	< 5	< 3	< 1	0.84	< 1	<0.2	60	
				D	< 5	< 2	< 3	< 4	< 5	< 3						
28	MC-9		228-GW-028	T	<10	< 1	1				< 1	0.54	1	<0.2	55	At least 18 yr old
				D	<10	< 1	1									
25	MC-12	MC-122	228-GW-025	T	10	< 1	1	16	< 5	< 3	13	0.45	< 1	<0.2		Well age appx. 10 yr
				D	10	< 1	< 1	18	< 5	< 3						
26	MC-11	MC-121	228-GW-026	T	<10	< 1	1	< 4	< 5	< 3	< 1	0.95	< 1	<0.2	50	
				D	<10	< 1	2	< 4	< 5	< 3						
29	MC-7		228-GW-029	T	<10	1	1				< 1	0.69	4.3	<0.2	65	Well implaced in 1973
			228-GW-030	D	<10	1	1				< 1	0.67	< 1	<0.2		
30	MC-8	MC-115		T	<10	< 1	2	< 4	< 5	< 3						
				D	<10	< 1	1	< 4	< 5	< 3						
31		MC-116		T				< 4	< 5	6	< 1	0.43	< 1	<0.2	110	Shares well with House No. 29
				D				< 4	< 5	34						
32	MC-15	MC-120		T	31	< 1	2	72	< 5	4					18	Hand dug, 1940s or 1950s
				D	30	1	1	78	< 5	< 3						
33	MC-20	MC-119	228-GW-033	T	< 5	< 2	< 3	< 4	< 5	< 3	< 1	0.66	< 1	<0.2	112	
				D	< 5	< 2	< 3	< 4	< 5	< 3						
34	MC-23	MC-118		T	< 5	< 2	< 3	< 4	< 5	< 3						20 yr old
				D	< 5	< 2	< 3	< 4	< 5	< 3						
36	MC-1[illegible]	MC-127	228-GW-036	T	12	1	1	57	< 5	< 3	16	0.58	< 1	<0.2	90	Hand dug, 1940s or 1950s Resampled July 1986 As = 52 ppm
				D	13	< 1	1	57	< 5	< [illegible]						

Note: < detection limit.

is consistently present in Mill Creek in concentrations above the analytical detection limits (4 ug/l). Concentrations of total arsenic range between 12 and 32.2 ug/l. Zinc has also been detected; values ranged up to 18 ug/l.

Streambed sediments were sampled in Mill Creek in April and July 1985, as part of the Anaconda Smelter Remedial Investigation. Trace metal concentrations in the streambed sediments were consistently lower than in the surrounding soils.

Airborne release of hazardous substances occurred during smelter operations at the Anaconda Smelter. Fugitive transport of dust containing hazardous substances from the site persist even after smelter shutdown in 1980. Of major concern are releases of arsenic, cadmium, and lead because of the potential human health hazards associated with these compounds.

Until the fugitive transport of hazardous substances from the Smelter Hill area into the Mill Creek area is remediated, the continued contamination (or recontamination) of the area will occur at a rate of 1.5 ug/kg soil per year. This potential for continued human exposure and recontamination greatly reduces the effectiveness that other alternatives involving soil excavation (i.e., clean up of the site) might have. Recent Hi Vol air sampling data indicate that highly contaminated particulates continue to be deposited on the community despite the efforts to control source materials on Smelter Hill.

Samples of airborne particulate matter are collected at four locations in the vicinity of the Anaconda Smelter site using Hi-Vol samplers. The locations of these sampling stations are shown on Figure 7. Samples collected at these sites were analyzed for total suspended particulates (TSP), respirable particulate, and trace metal content. The mean and range of concentrations of arsenic, cadmium, lead, copper, and zinc in airborne particulate samples collected at each station during 1984 are shown on Table 6.

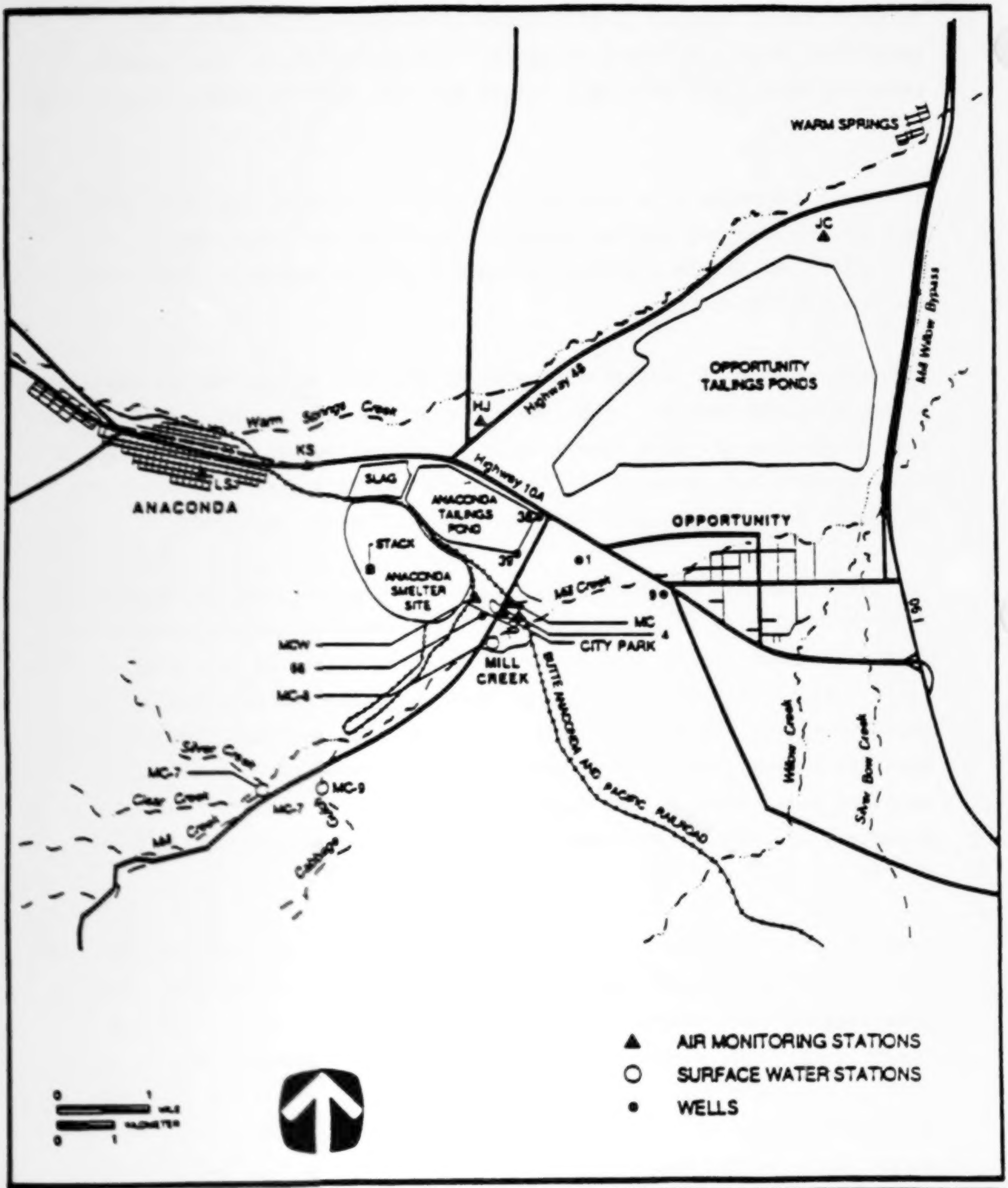

WARM SPRINGS
JC
Mill Willow Bypass
OPPORTUNITY TAILINGS PONDS
Highway 48
HJ
Warm Springs Creek
KS
LS
ANACONDA
SLAG
Highway 10A
ANACONDA TAILINGS POND
38
39
STACK
ANACONDA SMELTER SITE
OPPORTUNITY
1
Mill Creek
9
MC
4
CITY PARK
MCW
66
MC-8
MILL CREEK
BUTTE ANACONDA AND PACIFIC RAILROAD
Willow Creek
Silver Bow Creek
I-90
Silver Creek
MC-7
Clear Creek
MC-7
MC-9
Mill Creek
Cabbage Gulch
AIR MONITORING STATIONS
SURFACE WATER STATIONS
WELLS
0
1
MILE
KILOMETER
0
1

Figure 7. Locations of surface water, groundwater, and air monitoring stations in the Mill Creek study area.

TABLE 5. ARITHMETIC AVERAGE AND GEOMETRIC MEAN CONCENTRATIONS OF TOTAL SUSPENDED PARTICULATES, ARSENIC, CADMIUM, AND LEAD AT MILL CREEK (ug/m^3)[a]

	Arithmetic Average	Geometric Mean	Range of Concentration	
			Minimum	Maximum
Total suspended particulates	27	19	3	187
Arsenic	0.039	0.015	0.001	0.681
Cadmium	0.004	0.002	0.001	0.112
Lead	0.03	0.02	0.01	0.32

[a] April, 1984 through March, 1986, excluding data collected during the Mill Creek Park construction, October 2, 1985 through October 22, 1985.

TABLE 6. MEAN CONCENTRATIONS AND RANGES OF TRACE ELEMENTS IN RESIDENTIAL DUST AND INDOOR AIR

	Residential Dust (Vacuumed) Mg/Kg Arsenic Ave (Range)	Indoor Respirable Arsenic (ug/m^3) Ave (Range)
Mill Creek	264 (104-386)	0.019 (0.011-0.131)
Anaconda	58	0.007
Opportunity	62	0.005

A review of current air quality data was conducted to establish background concentrations for arsenic, cadmium, and lead. The following estimates of background levels were established based on data collected by the states of Arizona, Montana, Utah, and Washington.

Element	ug/m^3
Arsenic	0.01
Cadmium	0.01
Lead	0.04

In general, arsenic data collected at the Highway Junction monitoring station located east of Anaconda was a factor of ten (0.1 ug/m^3) greater than the background concentration. On December 29, 1984 a maximum of 2.0 ug/m^3 of arsenic was measured at the site. A maximum concentration of 0.681 ug/m^3 was measured at the Mill Creek monitoring station. The geometric mean concentration for the Mill Creek station was 0.015 ug/m^3 (Table 5).

No regulations specifically applicable to arsenic and cadmium that are applicable to the Mill Creek RI/FS curently exist under the Clean Air Act or the Toxic Substances Control Act.

Household dust samples collected in selected homes in Mill Creek indicate that elevated levels of arsenic, lead, and cadmium are present. Daily exposure to these hazardous substances in household dust is likely. Results of vacuum dust and indoor respirable dust sampling are summarized in Table 6.

E. Surface and Subsurface Pathways of Migration

On the basis of the available data on environmental levels, it can be concluded that the soil in the Town of Mill Creek is highly contaminated with arsenic and other toxic metals derived from the Anaconda Smelter site. Significantly elevated levels of arsenic have also been reported at times in airborne particulates near the site, in residential dusts, and in the drinking water. Other communities around the smelter have been found to have much lower levels of contamination.

For Mill Creek children, direct ingestion of soil is the most likely route of exposure to hazardous contaminants from the Anaconda Smelter site. For adults and children, the important potential exposure pathways are ingestion of contaminated drinking water, inhalation, and ingestion of airborne dirt and household dust.

The total environmental exposure, and therefore the actual risk, of the children of Mill Creek to arsenic is compounded by the many routes of exposure. The combined ingestion of soil, dust, and drinking water and the inhalation exposure to airborne arsenic can be considered additive. A portion of the inhaled particles may also be ingested.

F. Location and Number of Affected Receptors

Public health concerns have been addressed in the Endangerment Assessment (Clement 1987). The risk assessment identified the general Mill Creek populace as a potential receptor of environmental trace metal contamination, and further identified Mill Creek children as a population of particular concern because children are likely to ingest appreciable amounts of soil and because high levels of urinary arsenic have been measured in Mill Creek children.

III. ENFORCEMENT (Confidential)

For enforcement analysis see confidential Attachment I.

IV. COMMUNITY RELATIONS

Beginning with the first newspaper reports that Mill Creek residents may be relocated, community concern at the Operable Unit has been high. On several occasions, new information about the Operable Unit has been front-page news in area newspapers and has occasionally attracted full camera crews from television stations in Salt Lake City, Utah. An active community-based group, the Mill Creek residents Association, was formed in May 1986, to present a united front in gaining consideration for views of the residents of Mill Creek. This group presented EPA with a list of demands, seeking EPA's agreement to consider remedial options that would allow some people to stay and others to move out of the community. EPA agreed to consider that request. Other demands included mental health care for residents suffering from stress related to Superfund activities, and full replacement value for any Mill Creek homes that EPA may buy during a permanent relocation.

During the course of the RI/FS, EPA representatives, including the director of the Region VIII Waste Management Division from Denver, have met with Mill Creek residents. EPA has had numerous discussions with AMC, the general public, and federal, state, and local agencies. Details on correspondence, meetings,and other interactions among the interested parties are included in the Responsiveness Summary and the Administrative Record for the site. All of the interested groups and entities have been consulted in planning and conducting the investigations and evaluations. All have been invited to and have attended monthly meetings (as frequently as once/month, recently on a quarterly basis) of the Anaconda-Deer Lodge County Environmental Advisory Committee for the Anaconda Smelter site, where EPA presented and discussed information about the site and options for action. EPA prepared summaries of these meetings, including EPA responses to issues raised by those who attended the meetings. EPA also prepared five fact sheets with information directly relevant to the Mill Creek Operable Unit. These documents are available from EPA upon request.

EPA has also had a resident community relations specialist working with the community of Mill Creek to explain RI/FS activities to the citizens and obtain their input.

A public meeting was held on December 23, 1986, to inform the public of the availability of the Draft RI/FS reports for Mill Creek. The public comment period of the Draft RI/FS was scheduled from December 23, 1986, to February 4, 1987. The comment period was extended from its originally scheduled period to January 20, 1987.

Key concerns regarding the remedial alternatives considered in the FS are addressed in the Responsiveness Summary (attached).

The State of Montana and the Federal Emergency Management Agency (FEMA) have concurred in the selected remedy.

V. ALTERNATIVES EVALUATION

Mill Creek, Montana is being addressed as an operable unit of the Anaconda Smelter NPL Site (40 CFR Subsection 300.68(C)). Mill Creek is a community of approximately 160 acres in size which is immediately southeast of the Anaconda Smelter. The community originally consisted of 37 residences, however, following recent acquisition of properties by ARCO, only 8 residences are currently occupied.

EPA does not intend at this time to address all public health and environmental problems present in Mill Creek. The limited number of regional environmental issues not addressed in the Mill Creek RI/FS will be addressed under subsequent operable units. EPA's primary objective for the Mill Creek operable unit is protection of the health of the residents of Mill Creek. This includes both short-term and long-term protection of public health. Two categories of alternatives were presented in the RI/FS to support this objective: (1) cleanup alternatives, and (2) the permanent relocation alternative. For the cleanup alternatives, EPA's objective was permanent protection of public health within the boundaries of the community to the maximum extent possible at this time and to not contribute to environmental problems. For the permanent relocation alternative, EPA's objectives are adequate protection of the current residents of Mill Creek consistent with paragraph 121(d)(1) of SARA, supplemented by interim controls in Mill Creek to minimize short-term public health problems for current non-residents who may visit or pass through the area. Subsequent operable units of the Anaconda Smelter NPL site will address the long term public health and environmental issues associated with regional contamination problems.

The selected remedy of permanent relocation of Mill Creek residents, together with temporary site stabilization, was determined in the RI/FS to be a more reliable remedy over the long term. The selected remedial alternative is required by Section 101(24) of CERCLA to be "more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure deposition off-site of hazardous substances or may otherwise be necessary to protect the public health or welfare". The National Contingency Plan (NCP) requires that the selected remedy be "cost-effective" and one that effectively "mitigates and minimizes threats to and provides adequate protection of public health and welfare and the environment" (40 CFR subsection 300.68(i)(1)). Unless specified exceptions apply, the selected remedy must attain or exceed applicable or relevant and appropriate Federal and State requirements.

Remediation of the environmental effects resulting from the existing site contamination will not be a direct objective of the selected remedial alternative for Mill Creek. However, implementation of the Mill Creek remedial response will not cause significant increases in adverse impacts to the environment. The temporary site stabilization will provide some environmental protection. Environmental effects of the existing contamination will be addressed in the Anaconda Smelter site RI/FS.

In accordance with Section 300.68(f) of the NCP, EPA has developed alternatives which address the following categories:

Category	Description
1.	Alternatives for treatment or disposal at an off-site facility.
2.	Alternatives which attain applicable or relevant and appropriate public health or environmental standards.
3.	Alternatives which exceed applicable or relevant and appropriate public health or environmental standards.
4.	Alternatives which do not attain applicable or relevant and appropriate public health or environmental standards but will reduce the likelihood of present or future threat from the hazardous substances and which provide significant protection to public health, welfare, and the environment. This must include an alternative which most closely approaches the level of protection provided by the applicable or relevant standards.
5.	No action alternative.

A total of 12 remedial action alternatives were developed through the course of the Remedial Investigation/Feasibility Study (RI/FS) for the community of Mill Creek, Montana. These 12 alternatives are listed below. The specific category (see above) addressed by each alternative is also included:

		Category
Alternative 1:	Relocation of all residents.	1*
Alternative 2:	Complete soil removal from private property to RCRA facility.	1
Alternative 3:	Complete soil removal from private property with on-site disposal.	4
Alternative 4:	Partial soil removal with on-site disposal, partial soil till.	4
Alternative 5:	Partial soil fill and sod cap, partial soil till.	4
Alternative 6:	Partial soil fill and sod cap.	4
Alternative 7:	Common response action.	4
Alternative 8:	Partial relocation	4

Alternative 9:	Relocation of houses	4
Alternative 10:	Relocation of sensitive population	4
Alternative 11:	No action	5
Alternative 12:	Complete soil removal with no future institutional controls	2 or 3*

* This alternative satisfies ARARs identified for the limited operable unit and interim remedial action objectives. It does not address ARARs for a permanent remedy.

** Whether alternative meets or exceeds ARARs depends on depth of soil removal and replacement.

An additional alternative which included temporary relocation of residents until the permanent remedy was implemented was included in the addendum to the RI/FS.

A summary of the major components of each remedial alternative is included in Figure 8.

The remedial action alternatives were subjected to preliminary public health and environmental screening and cost screening pursuant to 40 CFR Section 300.68 (g). Through this screening, alternatives which would not offer adequate protection of public health and environment were eliminated from further consideration. Cost screening was conducted to eliminate alternatives which far exceed the cost of other alternatives and would not offer substantially greater protection of public health.

An alternative for relocation only of families with children between the ages of 2 and 6 (alternative 10) was eliminated because it would fail to provide long-term protection of public health of families who remain, move into, or visit Mill Creek frequently. The other alternative eliminated during screening was for complete soil removal from private property with disposal at an off-site RCRA disposal facility (Alternative 2). This alternative would provide essentially identical public health protection as disposal of the soil at the Anaconda Smelter site (Alternative 3) but at nearly ten times the cost of the on-site disposal alternatives. The No

Remedial Action Alternative	Common Response Actions				Relocation Response Actions					High Use Private Property Actions				Outlying Private Property Actions					AMC-Own'd Property Options			Soil Dispo Actio	
	Pave Roadways and Private Drives	Provide Alternative Water Supplies as Needed	Clean Houses and Replace Water Heaters	Conduct Monitoring and Analysis	None	Partial (Willing)	Partial (Sensitive)	Total (Includes Revegetation of Disturbed Areas)	Relocation of Primary Dwellings	Soil Removal	Soil Fill	Sod Cap	No Action	Soil Removal	Soil Fill	Soil Tilling	Revegetation	No Action	Fence and Post	Soil Removal, Fill and Revegetate	No Action	On-Site	Off-Site
1 Relocation of All Residents								■					■					■	■				
2 Complete Soil Removal with Off-Site Disposal	■	■	■	■	■					■	■	■		■	■		■		■				■
3 Complete Soil Removal with On-Site Disposal	■	■	■	■	■					■	■	■		■	■		■		■			■	
4 Partial Soil Removal with On-Site Disposal	■	■	■	■	■					■	■	■				■	■		■			■	
5 Partial Soil Fill, Sod and Partial Till	■	■	■	■	■						■	■				■	■		■				
6 Partial Soil Fill and Sod	■	■	■	■	■						■	■						■	■				
7 Common Response Actions Only	■	■	■	■	■								■					■	■				
8 Partial Relocation	■	■	■	■		■				← This Alternative Could be Combined with Alternatives #2 through #7 →													
9 Relocation of Houses			■					■	■				■					■	■				
10 Relocation of Sensitive Population	■	■	■	■			■			← This Alternative Could be Combined with Alternatives #2 through #7 →													
11 No Action					■								■					■			■		
12 Complete Soil Removal, Ineffective Institutional Controls	■	■	■	■	■					■	■	■		■	■		■		■	■		■	

Figure 8.

Summary of Remedial Action Alternatives

Action alternative, by definition, would also fail public health and environmental screening, but for comparison purposes was retained during detailed analysis of the remaining alternatives. Detailed technical, institutional, public health, environmental, and cost analyses were performed for the remaining ten remedial action alternatives, including the No Action alternative. The major findings of these analyses are summarized in Table 7.

An assessment of the reliability of each remedial alternative was conducted and is summarized in Figure 9. For comparison purposes, the remedial alternatives considered can be divided into 4 general groups as follows:

Group	Alternative #
No Action	11
Partial Soil Removal	4, 5, 6, 8, 10
Complete Soil Removal	2, 3, 12
Relocation	1, 8, 9, 10

Protectiveness

EPA's Superfund Program has established a 10^{-6} excess cancer risk as its goal for cancer risk reduction. On a site specific basis, the Agency can establish a remedial action objective of between 10^{-4} and 10^{-7} excess cancers. Soil capping, soil replacement, or relocation of residents would bring the estimated skin cancer risk to 4.7×10^{-5} (average case) and 1.7×10^{-4} (reasonable maximum case) within the range of 10^{-4} to 10^{-7}. Only Alternatives 1 and 12 (or alternative 3 combined with soil removal or capping on AMC property) would reduce the excess skin cancer risk to 4.7×10^{-5} (average case) and 1.7×10^{-4} (reasonable maximum case) for all residents and/or all areas of the site.

The No Action alternative was rejected because it failed to adequately protect public health. Alternatives dealing with partial soil removal were determined to be unreliable because certain areas in the community would not be remediated and effective institutional controls were not available

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TABLE 7.
Detailed Analysis Summary

Alternative[a]	Overall Reliability[b]	Time to Implement[c]	Institutional Requirements[d]		Social Considerations	Affected Population or Use Area	Cumulative Risks[e]										Total Present[k] Worth Cost
			To Implement	Post Implementation			Skin Cancer[f] Excess Risk: Probable Case	Skin Cancer[f] Excess Risk: Worst Case	Lung Cancer[g] Excess Risk: Probable Case	Lung Cancer[g] Excess Risk: Worst Case	Cadmium Ingestion[h] (mg/kg/day): Probable Case	Cadmium Ingestion[h] (mg/kg/day): Worst Case	Blood Lead[i] (ug/dl): Probable Case	Blood Lead[i] (ug/dl): Worst Case	Total Systemic[j] Hazard Index (HI): Probable Case	Total Systemic[j] Hazard Index (HI): Worst Case	
1 Relocation of All Residents	High	1 Year	Purchase agreements, condemnation may be required	Access or use restrictions pending completion of Smelter Site RI/FS.	Not all residents wish to move.	Relocated Residents	4.7E-05	1.7E-04	1.0E-04	1.6E-03	2.05E-05 HI=0.07	4.93E-05 HI=0.17	12.8 HI=0.51	13.5 HI=0.54	0.50	0.71	Relocation Only: $1,090,000 with 6-inch removal: $3,560,000 with 12-inch removal: $5,060,000 with 18-inch removal: $7,060,000 with 42-inch removal: $15,460,000
3 Complete Soil Removal from Private Property with On-site Disposal	Moderate	1 to 2 Years	Property access agreements.	Private Property: No use restrictions. AMC Property: Access or use restrictions	Property owners would not be given option of buyout. Not all components of a remedial action would necessarily be viewed as desirable. These considerations apply to Alternatives 3 through 7.	Current High Use Areas Abutting Private Property Fenced AMC Property	4.7E-05 4.7E-05 1.5E-04	1.7E-04 1.7E-04 2.5E-03	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.05E-05 HI=0.07 2.05E-05 HI=0.07 2.60E-05 HI=0.08	4.93E-05 HI=0.17 4.93E-05 HI=0.17 2.00E-04 HI=0.50	12.8 HI=0.51 12.8 HI=0.51 13.8 HI=0.56	13.5 HI=0.54 13.5 HI=0.54 17.5 HI=0.70	0.50 0.50 0.64	0.50 0.71 1.26	6-inch removal: $3,060,000 12-inch removal: $5,030,000 18-inch removal: $6,570,000 42-inch removal: $11,570,000
4 Partial Soil Removal with Onsite Disposal, Partial Soil Fill	Low to Moderate	1 to 2 Years	Property access agreements	Private Property: Land use restrictions. AMC Property: Access or use restrictions.		Current High Use Areas Abutting Private Property Fenced AMC Property	4.7E-05 8.7E-05 1.5E-04	1.7E-04 1.1E-03 2.5E-03	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.05E-05 HI=0.07 2.26E-05 HI=0.08 2.60E-05 HI=0.08	4.93E-05 HI=0.17 8.54E-05 HI=0.30 2.00E-04 HI=0.50	12.8 HI=0.51 13.2 HI=0.53 13.8 HI=0.55	13.5 HI=0.54 15.0 HI=0.60 17.5 HI=0.70	0.50 0.60 0.64	0.71 0.90 1.20	6-inch removal: $2,840,000 12-inch removal: $2,960,000 18-inch removal: $3,330,000 42-inch removal: $4,630,000
5 Partial Soil Fill and Sod Cap, Partial Soil Till	Low	1 to 2 Years	Property access agreements.	Private Property: Land use restrictions. AMC Property: Access or use restrictions.		Current High Use Areas Abutting Private Property Fenced AMC Property	4.7E-05 8.7E-05 1.5E-04	1.7E-04 1.1E-03 2.5E-03	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.05E-05 HI=0.07 2.26E-05 HI=0.08 2.60E-05 HI=0.08	4.93E-05 HI=0.17 8.54E-05 HI=0.30 2.00E-04 HI=0.50	12.8 HI=0.51 13.2 HI=0.53 13.8 HI=0.55	13.5 HI=0.54 15.0 HI=0.60 17.5 HI=0.70	0.50 0.60 0.64	0.71 0.90 1.20	$2,670,000
6 Partial Soil Fill and Sod Cap	Low	1 to 2 Years	Property access agreements	Private Property: Land use restrictions. AMC Property: Access or use restrictions.		Current High Use Areas Abutting Private Property Fenced AMC Property	4.7E-05 1.5E-04 1.5E-04	1.7E-04 2.5E-03 2.5E-03	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.05E-05 HI=0.07 2.60E-05 HI=0.08 2.60E-05 HI=0.08	4.93E-05 HI=0.17 2.00E-04 HI=0.50 2.00E-04 HI=0.50	12.8 HI=0.51 13.8 HI=0.55 13.8 HI=0.55	13.5 HI=0.54 17.5 HI=0.70 17.5 HI=0.70	0.50 0.64 0.64	0.71 1.20 1.20	$2,300,000
7. Common Response Actions	Low	1 Year	Property access agreements	Private Property: Greatest land use restrictions. AMC Property: Access restrictions		Current High Use Areas Abutting Private Property Fenced AMC Property	1.5E-04 1.5E-04 1.5E-04	2.5E-03 2.5E-03 2.5E-03	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.60E-05 HI=0.08 2.60E-05 HI=0.08 2.60E-05 HI=0.08	2.00E-04 HI=0.50 2.00E-04 HI=0.50 2.00E-04 HI=0.50	13.8 HI=0.55 13.8 HI=0.55 13.8 HI=0.55	17.5 HI=0.70 17.5 HI=0.70 17.5 HI=0.70	0.64 0.64 0.64	1.20 1.20 1.20	$1,830,000
8 Partial Relocation	High for Relocated Residents, Low to Moderate for Remaining Residents	1 to 2 Years	Purchase and property access agreements	Private Property: See Alternatives 3 through 7. AMC Property: Access or use restrictions.	Would offer choice to property owners. Community demographics would be altered.	Relocated Residents: Same as Alternative 1					Remaining Residents: Same as Alternatives 3 through 7						With Alternative 7: $1,640,000 to With Alternative 3: $5,240,000 (42-inch removal)
9 Relocation of Houses	High	1 to 2 Years	Purchase and property access agreements	Relocated House: No land use restrictions. Mill Creek: Access or use restrictions	Offers alternative to complete buyout.	Relocated Residents	4.7E-05	1.7E-04	1.0E-04	1.6E-03	2.05E-05 HI=0.07	4.93E-05 HI=0.17	12.8 HI=0.51	13.5 HI=0.54	0.50	0.71	$1,043,000
11 No Action	Low	Not Applicable	Not Applicable	Not Applicable	Not Applicable	No Action	1.5E-04	2.0E-03	1.0E-04	1.6E-03	2.60E-05 HI=0.08	1.42E-04 HI=0.50	13.8 HI=0.55	17.5 HI=0.70	0.64	1.20	Not Applicable
12 Complete Soil Removal Assuming Institutional Controls Will Not Be Effective	Moderate to High	1 to 3 Years	Property access agreements	No restrictions or ineffective restrictions are assumed	See Alternatives 3 through 7	Current High Use Areas Abutting Private Property Fenced AMC Property	4.7E-05 4.7E-05 4.7E-05	1.7E-04 1.7E-04 1.7E-04	1.0E-04 1.0E-04 1.0E-04	1.6E-03 1.6E-03 1.6E-03	2.05E-05 HI=0.07 2.05E-05 HI=0.07 2.05E-05 HI=0.07	4.93E-05 HI=0.17 4.93E-05 HI=0.17 4.93E-05 HI=0.17	12.8 HI=0.51 12.8 HI=0.51 12.8 HI=0.51	13.5 HI=0.54 13.5 HI=0.54 13.5 HI=0.54	0.50 0.50 0.50	0.71 0.71 0.71	6-inch removal: $4,553,000 12-inch removal: $7,083,000 18-inch removal: $9,390,000 42-inch removal: $18,353,000

Potential Fa. a Criteria

Remedial Alternatives	Potential for Ground-Water Contamination	Potential Changes in Land Uses	Potential Failure of Institutional Controls	Potential Failure of Soil/Vegetative Cap	Potential for Existing or Replacement Wells to become Contaminated	Potential Exposure of Humans to Elevated Metals Concentrations in Soil or Ground-Water, Resulting from Soil Leaching	Potential Exposure of Humans to Elevated Metals Concentrations in Soils, Resulting from Soil Disturbance	Potential for Recontamination of Soil and Surface Water via Fugitive Dust from Adjacent Contaminated Areas
#1 Relocation of All Residents	M[1,4]	H[4]	H[4,7]	NA[4,9]	NA[3,14]	NA[4,16]	NA[4,16]	NA[21]
#3 Complete Soil Removal from Private Property with On-Site Disposal	L to M[2]	H[5]	H[7]	L to H[10,11]	M[15]	L to M[17]	L to M[17]	M[22]
#4 Partial Soil Removal with On-Site Disposal, Partial Soil Till	M[1]	H[5]	H[7]	M to H[10,11,12]	M[15]	M[18]	M[20]	M[22,23]
#5 Partial Soil Fill and Sod Cap, Partial Soil Till	M[1]	H[5]	H[7]	H[10,12]	M[15]	H[19]	H[19]	M[22,23]
#6 Partial Soil Fill and Sod Cap	M[1]	H[5]	H[7]	H[10,13]	M[15]	H[19]	H[19]	H[22,24]
#7 Common Response Actions	M[1]	H[5]	H[7]	NA[9]	M[15]	H[19]	H[19]	H[22,25]
#8 Partial Relocation	M/NA[3]	H/NA[3]	H/NA[3,7]	L to H/NA[3,10]	M/NA[3,15]	L to H/NA[3]	L to H/NA[3]	L to H/NA[3]
#9 Relocation of Houses	M/NA[3]	H/NA[3]	H/NA[3,7]	L to H/NA[3,9,10]	M/NA[3,15]	L to H/NA[3]	L to H/NA[3]	L to H/NA[3]
#11 No Action	M[1]	H[5]	NA[8]	NA[9]	M[15]	H[19]	H[19]	NA[22,21]
#12 Complete Soil Removal Assuming Institutional Controls will not be Effective	L to M[2]	L to H[17]	L to H[17]	L to H[10,11]	M[15]	L to M[17]	L to M[17]	M[22]

AMC Property Options

Fence and Post	M[1]	H[5]	H[7]	NA[9]	M[15]	H[19]	H[19]	NA[22,21]
Establish Vegetation	M[1]	H[5]	H[7]	H[10]	M[15]	H[19]	H[19]	M[22,23]
Tilling and Revegetation	M[1]	H[5]	H[7]	H[10,12]	M[15]	H[19]	H[19]	M[22,23]
Soil Tilling with Revegetation	M[1]	H[5]	H[7]	H[10]	M[15]	H[19]	H[19]	M[22]
Soil Removal, Soil Fill and Revegetation	L to M[2]	H[6]	H[7]	L to H[10,11]	M[15]	L to M[17]	L to M[17]	M[22]

Legend	
H	High Potential for Failure
M	Moderate Potential for Failure
L	Low Potential for Failure
NA	Criterion Not Applicable to Remedial Alternative

Figure 9.
Potential Failure Ranking Matrix

to prevent others from building new homes in these areas and significant risk levels would remain for areas where soil was not removed. Soil removal to a depth of 18 inches throughout Mill Creek was identified as being less reliable and having a greater failure potential than did permanent relocation or complete soil removal. Complete soil removal was considered less reliable than permanent relocation. Several factors lead to this last conclusion: 1) long-term soil recontamination from adjacent non-remediated sources, 2) potential failure of vegetative cover and, 3) potential for continued direct contact if human activity disturbs the cover. It was concluded that the permanent relocation alternative is preferable and reliable in protecting the health of current Mill Creek residents. This alternative provides adequate protection of the health of these individual (see Table 7). By physically removing residents, direct contact with contaminants is prevented. The remedy is reliable since there are no technical components to "fail". In fact, urinary arsenic levels in all residents that were temporarily relocated in 1986 have decreased further indicating the reliability of this alternative.

Cost Effectiveness

A summary of the cost analyses is presented in Table 8. The alternative with the lowest cost is Alternative 1: Relocation of all residents. It should be noted that ARCO has currently relocated all but 8 residences, leaving a net cost of $300,000 to complete this remedy.

The cost for Alternative #1 does not, however, include the cost of soil cleanup. In the Feasibility Study, the cost of permanent relocation including complete removal and replacement of 6 to 42 in. of soil was compared to similar soil removal and replacement with the residents remaining in Mill Creek so that EPA could consider what the total remedial costs would be for Mill Creek when the interim remedy costs were added to projected costs of a potential final remedy. These comparative costs are summarized below:

TABLE 8. SUMMARY OF COST ANALYSES[a]

Remedial Action Alternative	Capital Costs ($1,000)	O&M Present Worth ($1,000)	Total Present Worth ($1,000)
Alternative 1A	1,470	20	1,490
Alternative 1B1	3,840	120	3,960
Alternative 1B2	5,740	120	5,860
Alternative 1B3	7,700	140	7,840
Alternative 1B4	15,240	220	15,460
Alternative 3A	3,300	360	3,660
Alternative 3B	4,600	400	5,000
Alternative 3C	6,060	410	6,470
Alternative 3D	11,130	440	11,570
Alternative 4A	2,500	340	2,840
Alternative 4B	2,610	350	2,960
Alternative 4C	2,970	360	3,330
Alternative 4D	4,240	390	4,630
Alternative 5	2,320	350	2,670
Alternative 6	1,970	330	2,300
Alternative 7	820	210	1,030
Alternative 8A	1,560	80	1,640
Alternative 8B1	2,320	130	2,450
Alternative 8B2	2,780	140	2,920
Alternative 8B3	3,280	150	3,430
Alternative 8B4	5,050	190	5,240
Alternative 9	1,820	20	1,840
Alternative 12A	4,140	410	4,550
Alternative 12B	6,660	420	7,080
Alternative 12C	8,950	440	9,390
Alternative 12D	17,840	510	18,350

[a] Costs estimated to within +50% and -30%

	Alternative 1	Alternative 12
Soil Depth	Soil Cleanup with Permanent Relocation	Soil Cleanup without Permanent Relocation
6"	$ 3,840,000	$ 4,140,000
12"	$ 5,740,000	$ 6,660,000
18"	$ 7,700,000	$ 8,950,000
42"	$15,240,000	$17,840,000

Costs for permanent relocation are lower for all of the soil cleanup depths even though this alternative includes the cost of property acquisition. This is because cleanup can be done at less expense using heavy equipment after homes have been removed, than using more labor intensive cleanup methods around houses. In addition, Alternative 1 provides the greatest protection to the current residents of Mill Creek by reducing risks to background levels. Alternative 1 is therefore the most cost effective remedy consistent with Subsection 101(24) of CERCLA. The temporary relocation alternative (Alternative #13) would have higher total costs than either Alternative #1 or #12 because of the additional costs to temporarily relocate residents until implementation of the final remedy for the Anaconda Smelter site.

Air quality modeling conducted during this remedial investigation identified a very real problem of long-term recontamination of the community of Mill Creek. This modeling identified a rate of recontamination of the soils in Mill Creek of up to 1.5 ppm of arsenic per year. The September, 1987 EPA Endangerment Assessment indicates that even background levels of arsenic in soils pose skin cancer risks of 1.7×10^{-5} (maximum probable scenario). Soils could quickly become recontaminated above background levels and continue to become worse. The source of this recontamination is windblown dust from the smelter and surrounding contaminated areas. Up to 10 square miles is significantly contaminated with high levels of arsenic; vegetation is sparse and wind moves large quantities of dust and soil. This problem will be addressed in a later regional operable unit. The "environmentally preferable" requirement for permanent relocation in Subsection 101(24) of CERCLA is clearly satisfied.

Preference for Treatment

Subsection 121(b) of SARA identifies a preference for implementation of permanent solutions and use of alternative treatment technologies. Alternative treatment technologies evaluated as part of the Mill Creek RI/FS including a deep tilling of contaminated surface materials and leaching of contaminants from surface soils.

A pilot study was conducted to evaluate the effectiveness of various tilling procedures in reducing the surficial soil arsenic, cadmium, copper, lead, and zinc concentrations. Two plots located on Anaconda Minerals Company property were selected for the tilling project. Each plot was subdivided in half. Four tilling techniques were employed, one on each of the subplots.

The measurement of surficial soil metals concentrations before and after tilling demonstrate the relative effectiveness of each treatment. All surficial (0-1 in.) metals concentrations were reduced between 30 and 86 percent. A mean reduction in soil metals concentrations of 62 percent was calculated for all subplots. However, this reduction in soil metals was not adequate to reduce exposure risks to acceptable levels.

A bench test was conducted to evaluate the potential of using topically-applied water to leach the surficial contaminants farther into the soil horizon. Three sites in Mill Creek were chosen to collect soil profile samples. These sites represent slightly different soil types throughout the community. It was impossible to core undisturbed soil columns. Therefore, columns were recompacted to original site densities and land depth intervals.

The results of the soil column leach bench test indicate that the metal concentrations in surficial soils following leaching would be sufficiently high to pose an unacceptable risk to public health. For the final permanent remedy, additional testing will be necessary to satisfy requirements concerning alternative treatment technologies.

Compliance with Other Environmental Laws

Subsection 121(d)(2) of CERCLA and 40 C.F.R. Section 300.68(i) together require that the lead agency select a cost-effective remedy that effectively mitigates and minimizes threats to and that provides adequate protection of public health, welfare, and the environment. Except as provided in Subsection 121(d)(4) of CERCLA, this requires selection of a remedy that attains or exceeds applicable or relevant and appropriate federal public health and environmental requirements identified for each specific site.

A comprehensive analysis of Federal and State ARARs has been conducted to identify and evaluate ARARs for all remedial alternatives considered in the Mill Creek RI/FS. It is an attachment to the Feasibility Study report. The identification of ARARs in the ARARs analysis was developed for purposes of conducting an RI/FS. The following discussion selects the ARARs that apply only to the selected alternative of permanent relocation and temporary site stabilization. ARARs associated with a permanent remedy will be selected in future operable unit decision selecting a final, permanent remedy. If EPA determines that relocation assistance should be handled by the Federal Emergency Management Agency (FEMA), the action would follow the rules pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (44 CFR Part 25).

Federal ARARs

- Primary and Secondary National Ambient Air Quality Standards for respirable particulate and lead (40 CFR Part 50).
- Montanas Air Quality Bureau's requirements for particulate matter and construction/demolition sites (ARM Sections 16.8.821 and 16.8.1401(3) and (4)).

- Federal Water Quality Criteria (40 CFR Part 131) criteria for surface water quality for aquatic life (Arsenic at 0.19 mg/l, Cadmium at 0.00066 mg/l, Lead at 0.0013 mg/l, Copper at 0.0065 mg/l, Zinc at 0.059 mg/l).

- OSHA requirements for an occupational health and safety program as well as general and construction industry standards (29 CFR Part 1926 and 29 CFR Section 910.32).

- EPA regulations concerning proper handling and disposal of asbestos materials during demolition activities (40 CFR Section 61.140, et seq).

- Federal requirements regarding archaeological and historic preservation (40 CFR Part 6.301(c), 36 CFR Part 800, and 40 CFR Part 6.301(a and c)).

- Floodplain and wetland management requirements to minimize, to the extent possible, adverse impacts associated with activities in the floodplain (40 CFR Part 6, Appendix A; 40 CFR Sections 6.302 (a) and (b); Executive Order 11990; and Executive Order 11988).

- Clean Water Act Section 404 Dredge and Fill requirements (40 CFR parts 230, 231; 33 CFR part 323 and 330).

- Archaeological and Historic Preservation Act (16 U.S.C. Section 469; 40 CFR Section 6.301(b)).

- National Historic Preservation Act (16 U.S.C. Section 470; 40 CFR Section 6.301(b); and 36 CFR Part 800).

- Endangered Species Act of 1973 (16 U.S.C. Section 1531; 40 CFR Section 6.302(h); and 50 CFR Part 402).

- Fish and Wildlife Coordination Act (16 U.S.C. Section 1531; 40 CFR Section 6.302(g)).

State ARARS

- State Historic Preservation Officer's clearance on surface disturbance occurring during demolition of structures.

- Junk Vehicles - MCA Sections 7 - 10 - 504 and 522.

Other Federal and State criteria, advisories, and guidance to b considered:

a. Health based performance goals of 0.01 ug/m^3 for arsenic and 0.01 ug/m^3 for cadmium air pollution (natural background levels based in part on EPA carcinogenic potency factors ("Health Assessment Document for Inorganic Arsenic" March 1984, EPA-600/8-83-0251F; "Updated Mutagenicity and Carcinogenicity Assessment of Cadmium; Addendum to the Health Assessment Document for Cadmium (May 1981)"; June 1985, EPA-600/8-83-025F and EPA's target risk level of 1 x 10^{-6} and risk range of 1 x 10^{-4} to 1 x 10^{-7} (Public Health Evaluation Manual, 1986).

b. See Table 5.2-3 of Feasibility Study report.

c. Other Federal Criteria, Advisories, Guidance and State Standards in NCP at 50 Fed. Reg. 47949-47950.

Operable Unit Consistency with the Final Remedy

Permanent relocation as a first operable unit is consistent with any final remedy that EPA may select at a later date (40 CFR Section 300.68(c)). EPA can elect to clean the vacated townsite in any manner determined appropriate after the residents have been relocated.

VI. SELECTED REMEDY

Based on the evaluation of the remedial action alternatives in accordance with the NCP (40 CFR 300.68) and FS guidance, Alternative No. 1, Relocation of All Residents, has been identified as the preferred remedial action alternative.

This alternative involves buyout of all property owners in the town of Mill Creek and may require condemnation of the community by the United States or the State of Montana in order to accomplish the relocation of those residents who do not wish to relocate. Demolition of structures would be conducted and the entire site would be fenced and posted following relocation of residents.

Temporary stabilization would be performed following demolition of structures. Disturbed areas of the site would be stabilized from erosional forces by establishing and maintaining vegetation on those areas.

Because the Mill Creek area is immediately adjacent to highly contaminated areas of the Anaconda Smelter site, there is potential for continued transport of contaminants into the area. For this reason, and to ensure consistency of the remedy for Mill Creek with that for the remainder of the smelter site, it was decided to consider the final remedy in the Mill Creek area in conjunction with the implementation of the final remedy for the Anaconda Smelter site.

For the detailed analysis of alternatives, Section 300.68(h)(2) of the NCP specifies that an evaluation of reliability, implementability, and constructability be conducted. Alternative No. 1 would be the most reliable alternative, being easily implemented with little or no probability of failure. The alternative is institutionally manageable. Condemnation or other legal procedures could be required to implement complete relocation of residents.

The permanent relocation of all Mill Creek residents is an effective means of eliminating the public health threat to the current resident population. Total relocation of residents would eliminate the pathways of exposure of the resident population to contaminated soil, water, and air sources. This remedy would therefore effectively mitigate and minimize threats to and provide adequate protection of public health on an interim basis.

Useful life of this interim remedial action would be indefinite for the relocated residents of Mill Creek. For the town site, the useful life would be until implementaion of the final remedy. Fences and signs would be required or replaced as necessary to maintain property access control. A final remedy will be required to ensure long-term protection of public health and the environment.

Total relocation of all Mill Creek residents would be of moderate difficulty in terms of implementability. Demolition of all structures at the Mill Creek site could be readily implemented. Revegetation actions on disturbed areas could be easily implemented, but phytotoxicity, semi-arid climate, or other site limitations could adversely affect the establishment of a stable vegetative cover.

The time required to implement this remedial action alternative is dependent on the willingness of the residents to relocate and the institutional issues associated with the relocation action. Once relocation is complete, demolition, fencing, and posting activities could be implemented rapidly.

Total relocation of all Mill Creek residents poses few safety concerns for the relocating population. Worker safety concerns for this alternative include those concerns associated with conventional demolition activities, namely accidental injuries resulting from the use of heavy equipment and movement of debris. No long-term safety concerns for the resident population are associated with this remedy.

Implementation of this remedial alternative would not alter the extent of site contamination. Potential adverse impacts during implementation include short-term increases in windblown dust associated with demolition of structures and localized destruction of vegetation and wildlife habitat.

Constructability, as such, is not applicable to this action.

Consistent with procedures in 44 CFR Part 25, the United States will take adequate measures to ensure that relocating residents of Mill Creek relocate in areas which do not pose a significant risk to public health.

It is anticipated that exposure to arsenic and heavy metals at the relocation sites will be reduced to levels at or near background, making Alternative No. 1 the remedial action alternative with the lowest risk using the health risk assumptions presented in the Endangerment Assessment. Having both the lowest risk and lowest cost ($1,700,000 total present worth based on market value), relocation of all residents is clearly the most cost-effective alternative. In addition, because AMC has aquired all but 8 residences, approximately $300,000 is necessary to complete the remedy. The alternative would also have minimal environmental impacts and would be consistant with any final remedial action.

OPERATION AND MAINTENANCE

O&M requirements for the selected alternative would be simple and infrequent, involving maintenance of fencing and warning signs around the site boundary. Labor requirements for fence and sign maintenance would be minimal as would materials for repair. The reliability of site stabilization of areas disturbed during demolition activities would be dependent on the successful establishment of vegetation on these areas. Certain areas may have levels of contaminants present that would be phytotoxic. It is anticipated, however, that most disturbed areas can be temporarily revegetated, although soil amendments may be necessary. The amount of barren soil remaining in Mill Creek after temporary site stabilization activities would be minor compared to adjacent areas on Smelter Hill.

Operating and maintenance costs include maintenance of the vegetative cover used to stabilize the topsoil cap and maintenance of the fences around the perimeter of the area. An allowance of $35,000 per year was made to cover this cost.

ADDITIONAL DATA REQUIREMENT

The State of Montana 1987 Legislature enacted legislation funding for a state match; a portion of interest money from the resource indemnity trust fund. This legislation also authorized the State to use this interest money to offer (undervrite) bonds to provide increased funding for a State match, as necessary.

The Montana Department of Health and Environmental Sciences (MDHES) is the State Agency responsible for O&M activities and funding (see above paragraph).

SCHEDULE

Activity	Date
Start Enforcement Negotiations	Sep. 3, 1987
RA Signs Record of Decision (ROD)	Oct. 2, 1987
Complete Enforcement Negotiations[a]	Dec. 30, 1987
Begin Remedial Action[b]	Jan. 30, 1987
Complete Remedial Action	Dec. 30, 1988

[a] This time frame is the maximum statutory time frame in subsection 122 (e) of CERCLA. The Anaconda Company (AMC) has already reached agreement with all except eight families to permanently relocate. Therefore, negotiations should be complete.

[b] EPA Region VIII preferred alternative, permanent relocation, has already been initiated by AMC. AMC has undertaken this initiative at its own risk. This date reflects further efforts

needed to complete the remedy. EPA Region VIII preferred alternative also included stabilization of contaminated soils and fencing to restrict access.

FUTURE ACTIONS

The community of Mill Creek is included as an operable unit, under the on-going Anaconda Smelter site RI/FS. Therefore, remedial actions recommended for Mill Creek must be consistent with potential actions for the smelter site. The 160-acre community of Mill Creek will be included under future actions taken on the smelter site.

EXHIBIT 3

Remedial Action Plan
Mill Creek, Montana

I. General

The Defendant shall implement a program to temporarily stabilize vacated areas of the community of Mill Creek as residents are relocated. The temporary stabilization requirements are intended to provide temporary protection of public health and the environment pending completion of a Remedial Investigation/Feasibility Study ("RI/FS") for a later operable unit for regional soil contamination around the Anaconda Smelter complex (including the area of Mill Creek, Montana) and selection of a final remedial action. In conducting the temporary site stabilization, the Defendant shall comply with the requirements of section II of the Remedial Action Plan set forth below.

II. Temporary Site Stabilization Program

A. As title to property is transferred to the Defendant by the residents of Mill Creek or the State, homes and associated buildings shall be demolished on the property and driveway asphalt pavement shall be rendered unsuitable for recreational bicycling, skateboards, etc., through pitting or other means of roughening the surface. For properties acquired from residents by the Defendant, this shall be accomplished within fourteen (14) calendar days of cessation of utility service to the acquired residence or as quickly as practicable during the non-construction season (November 1 to April 30).

When title to property is transferred to the Defendant by the State, demolition of buildings shall be completed within fourteen (14) calendar days of the transfer or as quickly as practicable during the non-construction season. Notwithstanding the above schedule, the Defendant shall not initiate demolition or site stabilization activities until the historic preservation procedures in subparagraph III.A.1. of this Exhibit have been completed. If such procedures are completed after the deadlines specified immediately above, the demolition activities must be completed within fourteen (14) calendar days of completion of the historic preservation or as quickly as practicable during the non-construction season. Demolition debris from the demolished buildings shall be consolidated with demolition debris on the Smelter Hill remaining from demolition of the Anaconda Smelter and covered with a temporary cover within fourteen (14) calendar days of completion of demolition. The Defendant shall expeditiously grade the site(s) of demolished residences and associated buildings to natural contours and establish and maintain a vegetative cover. More specific requirements are included below.

B. Compliance With Applicable or Relevant and Appropriate Federal and State Requirements

As the Defendant conducts the demolition and temporary site stabilization program, the Defendant shall comply with the "applicable or relevant and appropriate" Federal and State requirements as set forth below.

1. Federal Requirements Regarding Archaeological and Historic Preservation

(Archaeological and Historic Preservation Act (16 U.S.C. section 469, 40 C.F.R. section 6.301(b)), and National Historic Preservation Act (16 U.S.C. section 470; 40 C.F.R. section 6.301(b); and 36 C.F.R. Part 800.))

a. The State Historic Preservation Officer (SHPO) has been consulted with respect to historic and archaeological resources in Mill Creek, Montana. A field investigation was conducted for planning purposes. The SHPO has concluded that Mill Creek does not constitute a historic district, and that prehistoric remains are probably not present in the area. Therefore, the activities outlined here are focused upon individual structures in the community which may meet the National Register Criteria (36 C.F.R. Part 60.4).

b. The Defendant shall conduct an intensive inventory of properties for structures which predate World War II. This inventory shall be conducted prior to any demolition of Mill Creek homes. A qualified historian shall gather information necessary to complete a Montana Historical and Architectural Inventory form for structures predating World War II. If the Defendant or its consultant cannot obtain access from a Mill Creek residential homeowner, EPA will assist the Defendant in gaining access consistent with paragraph IX.B. of the main text of this Partial Consent Decree. The information gathered concerning these structures shall be compiled into a historical and architectural inventory report and shall be submitted to EPA (Montana Office) within

60 days of the date of entry of this Partial Consent Decree or access to property, whichever is later.

c. Following a finding by EPA and the SHPO, in relation to the criteria for listing in the National Register of Historic Places, if a structure is found to be not eligible for nomination into the National Register of Historic Places, no further action is necessary. The Defendant shall proceed with demolition of all buildings on acquired properties within fourteen (14) calendar days of cessation of utility service to the acquired residence or as quickly as practicable following cessation of utility service during the non-construction season.

d. If structures are found by EPA and the SHPO to be eligible for the National Register of Historic Places, then the effects of the proposed house demolition shall be determined by EPA and the SHPO using the criteria of effect (section 800.9(a)) and the criteria of adverse effect (section 800.9(b)). If a finding of adverse effect is made, EPA shall consult with the SHPO and the Advisory Council on Historic Preservation to determine an appropriate approach to mitigate the effects of the Mill Creek demolition. Upon approval of a Memorandum of Agreement including mitigation matters by the Advisory Council, the Memorandum of Agreement shall be incorporated into this Partial Consent Decree as an enforceable part thereof, and the Defendant shall comply with the mitigation measures set forth therein.

2. Federal and State Requirements Regarding Air Resources

The Defendant shall comply with primary and secondary national ambient air quality standards for total suspended particulates and lead (40 C.F.R. Part 50) and Montana's Air Quality Bureau's requirements for particulate matter and construction/demolition sites (ARM sections 16.8.821 and 16.8.1401(3) and (4)). The Defendant shall comply with the health-based performance goals for both arsenic and cadmium referenced on page 48 of the Mill Creek ROD, as explained below.

The purpose of the health-based performance goals is to ensure that remedial activities, specifically, demolition and temporary site stabilization activities, do not cause excessive ambient concentrations of arsenic and cadmium over the short term. The health-based performance goals do not apply to emissions primarily originating outside the boundaries of Mill Creek or to emissions originating within Mill Creek from areas not directly affected by demolition and temporary site stabilization. EPA shall bear the burden of proving that concentrations of arsenic and cadmium above the health-based performance goals were caused primarily by remedial activities in Mill Creek. Compliance with the health-based performance goals shall be measured at the stationary ambient air quality monitoring station located in Mill Creek Park in the community of Mill Creek. In order to document noncompliance with the health-based performance goals and this Partial Consent Decree, the United States must demonstrate the following:

1. The 24-hour total concentration of cadmium exceeded 0.019 ug/m^3 or the total concentration of arsenic exceeded 0.5 ug/m^3* as measured by the EPA approved monitoring and analytical techniques currently used for the monitoring station and

2. Visible emissions of dust caused by demolition, grading, or dumping activities in the absence of other upwind visible sources were observed moving in the direction of the monitoring station within the 24-hour averaging period showing the exceedance of the arsenic and cadmium.

The Montana Air Quality rules at ARM section 16.8.1401(4) state that "reasonable precautions" are to be employed to control emissions of airborne particulate matter for all demolition projects. "Reasonable precautions" must also be taken when using streets, roads, or parking lots under ARM section 16.8.1401(3). The rules define "reasonable precautions" as follows:

> "Reasonable precautions means any reasonable measure to control emissions of airborne particulate matter. Determination of what is reasonable shall be accomplished on a case-by-case basis taking into account energy, environmental, economic, and other costs."

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*These numbers were established as a means of proving that an exceedance of the health-based performance goals were caused by demolition/site stabilization activities at Mill Creek. Numbers less than this value represent the observed air concentrations which occurred 99% of the time in Mill Creek during 1984 through 1986. Therefore, exceedances above these levels would be abnormal for Mill Creek.

The following reasonable precautions apply to the Mill Creek demolition.

Building Demolition

All houses and structures in Mill Creek must be wetted with water inside and outside prior to building demolition. At the time a structure is demolished, a dust-suppressing mist shall be applied to control airborne particulates.

Roads and Work Areas

All haul roads shall be watered during the construction season (May 1 to October 31) as often as necessary to prevent excessive dust. "Excessive dust" means airborne particulate emissions which exceed 50 percent opacity for a period of 90 seconds. When watering will not cause safety problems, all work areas shall also be watered.

Transport of Demolition Debris

Demolition debris shall be wetted in the trucks prior to leaving Mill Creek. All demolition debris shall be hauled to the Smelter site where it will be consolidated with demolition debris from the Smelter Complex located between the Anaconda #1 tailings pond and the slag pile. Debris shall be covered with slag to prevent blowing dust pending final disposition of demolition debris following the Smelter Hill RI/FS.

EPA has concluded that since the actions in this Remedial Action Plan are of short and intermittent duration and are intended to be interim, and since releases from these actions are difficult to separate from releases from areas adjacent to Mill Creek, the required practices listed above, in conjunction with the monitoring and compliance program, are consistent with health-based performance goals, which otherwise relate to long-term, area-wide averages.

3. Floodplain and Wetland Management Requirements (40 C.F.R. Part 6, Appendix A; 40 C.F.R. sections 6.302(a) and (b); Executive Order 11990; and Executive Order 11988). Clean Water Act section 404 dredge and fill requirements (40 C.F.R. Parts 230, 231, 33 C.F.R. Parts 323 and 330).

The community of Mill Creek is located within the 100-year floodplain of the stream (Mill Creek). Several of the homes that will be demolished as part of the implementation of the remedial action fall within the boundary of the riparian woodland/shrubland vegetative type, which was determined by EPA to be a wetland. As such, several management practices shall be utilized during the demolition activities. Demolition and site stabilization activities will be accomplished in the following manner to minimize adverse effects to wetland resources:

a. Demolition Activities

- Mechanized equipment shall be appropriately sized so as to minimize effects to wetland areas. The smallest piece of equipment with the shortest turning radius shall be utilized around structures where riparian trees and shrubs may be adversely affected. Whenever possible, equipment shall work around the riparian vegetation rather than destroy the vegetation.

- During demolition, equipment shall be transported via existing roadways. No new roadways will be constructed.
- All equipment shall be kept out of the area within the ordinary high water mark. Under no circumstances shall equipment be allowed to cross the stream or its banks.
- All demolition debris shall be removed from the site within fourteen (14) calendar days of the completion of demolition of a residence acquired during the construction season (May 1 to October 31). Debris from residences acquired in the non-construction season (November 1 to April 30) shall be removed within thirty (30) calendar days of the start of the next construction season.

b. Site Stabilization Activities

- Following demolition of homes and removal of demolition debris, foundations shall be collapsed and filled. The area shall be regraded and smoothed to conform to the existing topography and to facilitate drainage. The area of regrading shall be minimized and shall include only those areas directly affected by demolition activities.
- Materials which may be brought into the community for the purposes of fill shall not be waste or contaminated materials associated with the smelter. Fill material excavated from the current Smelter Hill borrow area may be used, where the top 75 feet of cover has been removed, provided EPA has been given 10 days' notice prior to removal in which to sample the soils to be used.

- Riparian vegetation which may have been rendered non-viable during demolition activities shall be removed and shall be replaced with like vegetation.
- Defendant shall mulch disturbed areas with straw or hay at the rate of approximately two (2) tons to the acre. The mulch will be crimped into the graded surface to reduce blowing dust and to promote revegetation.
- Defendant will seed the mulched areas using a seed mix of grasses consisting of Slender Wheatgrass, Streambank Wheatgrass, and Canadian Bluejoint. Seeding will be conducted during the first growing season after an area has been mulched. The spring planting season is considered to extend from May 1 to June 1. The fall planting season occurs from October 10 to October 31.

4. Requirements Concerning Wildlife Resources

(Endangered Species Act of 1973 (16 U.S.C. § 1531, 40 C.F.R. § 6.302(h), and 50 C.F.R. Part 402); and Fish and Wildlife Coordination Act (16 U.S.C. § 1531 and 40 C.F.R. § 6.302(g).) EPA has concluded informal consultation per section 7(a)(2) of the Endangered Species Act, as amended, with the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service has concurred that the proposed activities in Mill Creek, Montana, will not adversely affect endangered species or their habitats. Consultation concerning the effects and necessary mitigation regarding wetlands and grading and filling operations also satisfies the requirements of the Fish and Wildlife Coordination Act.

5. Requirements Concerning Aquatic Life

(Federal Water Quality Criteria (40 C.F.R. Part 131) for surface water quality for aquatic life as set forth on page 47 of the Mill Creek ROD.

The numerical criteria presented in the ROD shall be more specifically applied according to the direction provided in the Quality Criteria for Water (1986, EPA 440/5-86-001). For arsenic, the criteria remains fixed at 0.19 mg/l for a 4-day average. The cadmium criteria shall be 0.00066 mg/l at a hardness of 50, for a 4-day average. As hardness varies from this value, the appropriate criteria shall be determined according to the equation prescribed in the criteria document. The lead criteria shall be 0.0013 mg/l at a hardness of 50, for a 4-day average. As hardness varies from this value, the appropriate criteria shall be determined according to the equation prescribed in the criteria document. The copper criteria shall be 0.0065 mg/l at a hardness of 50, for a 4-day average. As hardness varies from this value, the appropriate criteria shall be determined according to the equation prescribed in the criteria document. The zinc criteria shall be 0.059 mg/l at a hardness of 50, for a 4-day average. As hardness varies from this value, the appropriate criteria shall be determined according to the equation prescribed in the criteria document (February 1987 Ambient Water Quality for Zinc, EPA 440/5-87-003).

a. These criteria only apply to remedial activities (demolition and temporary site stabilization) conducted in Mill Creek and do not apply to releases of hazardous substances originating outside of the community of Mill Creek as noted on page A-9 of Appendix D of the Mill Creek Feasibility Study. Compliance with these criteria shall be evaluated by utilizing a 4-day continuous average for chronic toxicity to aquatic life as set forth in the EPA Water Quality Criteria documents themselves. The average shall be calculated based on a minimum of two grab samples of Mill Creek surface water per day collected 4 hours apart at a location approximately 60 feet from the downstream edge of specific demolition/site stabilization activities where activities will be conducted within 60 feet of the stream.

b. ARCO shall collect a grab sample of Mill Creek surface water at the bridge carrying Highway 274 over the stream of Mill Creek on the southeast edge of the community of Mill Creek on the morning that demolition or other site stabilization work is initiated at a residential site in Mill Creek and for at least three mornings of consecutive working days thereafter or until the demolition or site stabilization work ceases, whichever is later. The purpose of these samples shall be to establish baseline conditions for waters as they enter the community of Mill Creek. The samples shall be collected, handled, analyzed, and reported in a manner consistent with this Partial Consent Decree. Analytical results shall be reported to EPA and the State not later than forty-five (45) calendar days of the date upon which the last sample in a series was collected.

c. In order to document noncompliance with a water quality criteria, the United States must demonstrate the following:

1. The 4-day average concentration of one of the criteria was exceeded at the downstream monitoring point (a showing of no detectable cadmium or lead using standard analytical techniques shall be an adequate showing of compliance with criteria for those parameters), and
2. The four-day baseline average at the Highway 274 bridge does not exceed the water quality criteria for the parameter for which exceedance(s) of the criteria at the downstream monitoring point were detected, and
3. A discharge or discharges of sediment resulting from demolition or other site

stabilization work conducted by the Defendant were observed at a time consistent with the sampling at the downstream sampling point showing exceedances of the criteria.

d. EPA has concluded that complying with the management practices specified concerning wetland resources should prevent exceedances of these water quality criteria.

6. Requirements Concerning Asbestos

(40 C.F.R. Section 61.140, et seq.)

The Defendant shall comply with these requirements if asbestos is encountered during demolition. The Defendant shall conduct pre-demolition inspections in order to ascertain the presence of asbestos and prepare and submit reports to EPA and the State documenting the results of the inspections. These reports shall be submitted not later than fourteen (14) calendar days following the inspection.

7. Requirements Concerning Junk Vehicles

(Sections 75-10-504 and 522, MCA.)

The Defendant shall comply with these requirements.

8. Requirements Concerning Occupational Health and Safety

(29 C.F.R. Part 1926 and 40 C.F.R. section 910.32)

The Defendant shall comply with these requirements.

B. Fencing Activities

Defendant shall fence acquired property in Mill Creek to secure the area from casual entry by the public. Fencing shall be conducted during the construction season (May 1 to

October 31). The Defendant shall fence the contiguous portions of the Mill Creek property currently owned by Defendant as described in the map which is Exhibit 5 of this Partial Consent Decree. Fencing shall consist of six-strand high tensile smooth wire. When gates are installed, Defendant shall provide a secure method to lock gates. Adequate warning signs shall be placed on the fence at all gates and at one hundred (100) foot intervals with the following warning: "Danger, Contaminated Area--Unauthorized Personnel Keep Out." Isolated small parcels of land owned by the Defendant (1 acre or less) which are surrounded by property under other ownership do not need to be fenced. Fencing shall be initiated and completed within thirty (30) calendar days from the date of entry of this Partial Consent Decree if the date of entry falls during the construction season. If the date of entry of this Partial Consent Decree falls during the non-construction season, then fencing shall be initiated and completed as weather permits but no later than thirty (30) calendar days after the start of the next construction season. As additional contiguous properties are acquired from the residents by the Defendant, the United States or the State, they shall be fenced within fourteen (14) calendar days of the date when the property is vacated by the residents during the construction season. During the non-construction season, fencing shall be completed as soon as weather permits after the property is vacated but no later than fourteen

(14) calendar days after the start of the next construction season.

C. Maintenance

The Defendant shall maintain the temporary cover over the demolition debris, the temporary vegetative cover, and the security fence until such time as EPA, in consultation with the State, completes the final remedial action for Mill Creek under subsequent operable units of the Anaconda Smelter Superfund site. Maintenance shall include monthly inspection and any necessary repairs to the fencing, temporary vegetative cover, and debris disposal site cover.

III. REPORTING REQUIREMENTS

The Defendant shall submit monthly progress reports to EPA and the State not later than seven (7) calendar days from the end of a calendar month documenting the Defendant's progress in complying with the requirements of this Remedial Action Plan. These reports shall address the permanent relocation program and the temporary site stabilization program, including operation and maintenance activities. The reports shall describe proposed activities for the upcoming month and the findings of the maintenance inspection. The monthly progress reports do not need to include other plans, reports, or other documents submitted to EPA and/or FEMA pursuant to this Partial Consent Decree if they are clearly referenced in the monthly report.

EXHIBIT 4

Cooperative Agreement Between the Federal Emergency Management Agency (FEMA) and the State of Montana (State) for the Implementation of the Permanent Relocation program at Mill Creek, Montana.

A. Authority. This Cooperative Agreement is executed pursuant to the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, Executive Order 12580, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

B. Purpose. The Environmental Protection Agency (EPA), in conjunction with the State, has selected a remedial clean up remedy at Mill Creek, Montana due to hazardous material contamination in the soil, drinking water, and household dust of the community. As a part of this clean up action, EPA and the State have determined the need for providing permanent relocation to all the residents of Mill Creek.

The State of Montana and the Federal Emergency Management Agency recognize the importance of making this relocation activity a cooperative undertaking. It is mutually recognized and agreed that this Cooperative Agreement is an attachment to the Partial Consent Decree which will be filed in *United States of America and State of Montana* v. *Atlantic Richfield Co.*, Civil Action No._______________, and the effectiveness of this Cooperative Agreement depends upon the execution of the Partial Consent Decree by the parties to it. If it is determined that ARCO will not take title to property acquired in Mill Creek pursuant to the Partial Consent Decree or its attachments, then the portion of this Cooperative Agreement which reflect a willingness by the State to accept title to acquired property prior to conveying such title to ARCO will have no effect and will be void.

C. Duties.

(1) FEMA Will:

a. Pay for 90% of the expenses incurred by the parties in carrying out actions taken pursuant to this Cooperative Agreement. The 90%-(Federal)-10% (State) cost sharing arrangement applies to all actions taken pursuant to this Cooperative Agreement unless otherwise specified herein.

b. Provide the State detailed documentation of its costs and work and those of its agents within 30 days of the completion of each quarter.

c. Take all actions necessary to accomplish the acquisition of marketable title for any real property which may have to be purchased pursuant to this Cooperative Agreement. Acquisition of marketable title action shall include, but not be limited to:

(1) Determining the nature of the privately-owned real property interests in the project and the identity of the owners of those interest;

(2) Appraising the fair market value of those interests described in paragraph (1) of this section. This appraisal shall disregard any decreases in the fair market value of the properties caused by EPA's having listed Mill Creek, Montana on the National Priorities List.

(3) Reviewing all titles, title insurance commitments, deeds and other documents regarding the conveyance of real property interests in the project prior to the purchase of such real property interests by FEMA;

(4) Negotiating with the seller to resolve any problems relating to title indicated by the title commitment report or any other information so that marketable title is conveyed by way of a general warranty deed accompanied by a title insurance policy which insures such marketable title;

(5) Offering to each owner of a real property interest described in paragraph (1) of this section, the appropriate purchase price as determined in paragraph (2) of this section and negotiating the sale of that real property interest;

(6) In regard to all of the above referenced conveyances, preparing the necessary documents for closing, including, but not limited to, sales contracts, and deeds;

(7) Presenting to the State before conveyance of marketable title, the contract for sale, the general warranty deed, and the title insurance commitment and policy for approval by the State as to whether they are in proper legal form and whether they adequately convey the quality of title according to the terms of this Cooperative Agreement.

d. Take all actions necessary to accomplish the relocation of the owners and/or occupants of purchased property pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act 1970, as amended, and that law's implementing regulations.

e. Exercise the power of eminent domain pursuant to section 104(j) of CERCLA, as amended, when necessary to acquire privately owned real property in Mill Creek. However, FEMA only agrees to assume such responsibility if:

(1) at the time the power of eminent domain has to be used, the State has not yet obtained such authority pursuant to the State's commitment in paragraph C(2)(d) of this Cooperative Agreement, and

(2) at the time the power of eminent domain has to be used, the State has become able to provide FEMA with an assurance pursuant to section 104(j)(2) of CERCLA, as amended, that it can and will accept a transfer of whatever interests in real property FEMA may have acquired by condemnation pursuant to section 104(j)(1) of CERCLA, as amended.

(2) The State Will:

a. Pay for 10% of all expenses incurred in carrying out the actions to be taken pursuant to the Cooperative Agreement.

(1) The 90% (Federal)-10% (State) cost sharing arrangement applies to all actions taken pursuant to this Cooperative Agreement unless otherwise specified herein.

(2) The State's 10% cost share can be made in whole or in part by using the State's direct matching contributions as defined in FEMA's Superfund Cost Share Eligibility Criteria for Permanent and Temporary Relocation, 44 CFR Part 222.

(3) To satisfy its 10% share of the cost, the State shall perform as follows:

(a) Within 30 days of FEMA's determinations of anticipated expenditures for each quarter, the State will provide FEMA with 10% of the amount so anticipated.

(b) To the extent that the State anticipates that it will satisfy its cost share for any quarter by matching contribution, the State will document to FEMA the State's anticipated matching contributions for the quarter and the anticipated costs relating to those matching contributions.

(c) In the event that:

(i) FEMA does not allow all or part of the matching contribution claimed by the State or,

(ii) The State's matching contribution does not equal 10% of the total costs of carrying out the FEMA and State responsibilities under this Cooperative Agreement for a given quarter, then the State will be billed for the difference between its matching contribution and its 10% cost share at the end of the quarter and shall pay such bill by check within 60 days.

(d) In the event that the State's contribution for a given quarter exceeds 10% of the total costs of carrying out the FEMA and State responsibilities under this Cooperative Agreement for such quarter, the excess contribution may be applied towards any future cost share requirements under this Cooperative Agreement. However, in no event will FEMA make any direct payments to the State.

(e) The State shall submit detailed documentation of the costs of its matching contributions within 30 days of the completion of each quarter.

(4) It is mutually recognized by FEMA and the State that the Partial Consent Decree to which this Cooperative Agreement is an attachment contemplates ARCO's reimbursing the United States all of the United State's costs of conducting a permanent relocation program at Mill Creek. However, in the unlikely event that federal and/or state funds must be used in the course of the Mill Creek permanent relocation program, the following applies: Within 90 days of final payment for purchase of property or for relocation assistance on properties purchased pursuant to this Cooperative Agrement, whichever is later, FEMA will determine the total costs of actions taken under this Cooperative Agreement which are subject to cost sharing and the dollar amount of the State's 10% cost share. If the State's matching contribution falls short of the amount owed for its cost share, the State will pay the amount billed within 60 days of receiving such bill. If the State's matching contribution exceeds the amount owed for its cost share, the State may use such excess to reduce its cost share at other facilities in the State which are listed on the National Priorities List established under CERCLA, as amended. However, in no event will FEMA make any direct payments to the State.

b. Pursuant to section 104(j)(2) of CERCLA, as amended, take marketable title to all real property acquired by the United States pursuant to the Partial Consent Decree in the litigation entitled *U.S. et al* v. *Atlantic Richfield Company*, *supra*, to which this Cooperative Agreement is an attachment at the time of settlement. Any deed between the United States and the State in this context will state that the conveyance is pursuant to the terms of the Partial Consent Decree in the litigation entitled *U.S. et al* v. *Atlantic Richfield Company*, *supra*, to which this Cooperative Agreement is an attachment and will reference its filing with the county recorder of deeds.

c. Review all titles, title insurance commitments, deeds and all other documents regarding the conveyance of real property interests in the project prior to the purchase of such real property interests by the United States.

d. Use its best efforts to obtain as expeditiously as possible statutory authority to exercise the power of eminent domain for use in remedial actions under CERCLA, as amended. If it becomes necessary to exercise the power of eminent domain at Mill Creek pursuant to this Cooperative Agreement, and if the State has obtained such authority by the time the power of eminent domain must be used, then the State agrees that it will be responsible for exercising such authority at Mill Creek.

e. Use its best efforts to obtain as expeditiously as possible statutory authority to enable the State to accept transfers of interests in real property which the United States might acquire by condemnation pursuant to section 104(j)(1) of CERCLA, as amended, notwithstanding the mandates of section 77-1-211(2) of the Montana Code.

f. Coordinate as necessary with and among appropriate units of local government.

g. Properly file this Cooperative Agreement with the County Recorder of Deer Lodge County Montana within 14 days of the execution of the agreement.

h. Upon receipt of reasonable notice, allow EPA and FEMA access to real property purchased pursuant to this Cooperative Agreement after the State has received title to such property. Such access will be for purpose of carrying out CERCLA activities in Mill Creek.

D. Project Officials and Roles.

(1) The Project Manager (PM) is designated by the State and shall be the principal State official involved in the project. The PM is responsible for assuring State compliance with responsibilities as outlined in this Cooperative Agreement. His/her primary contact with the Federal Government is the FEMA Project Officer.

(2) The Project Officer (PO) as designated by FEMA is the point of contact for the State. The PO shall be responsible for assuring FEMA compliance with responsibilities as outlined in this Cooperative Agreement.

(3) The FEMA Assistance Officer (AO) shall exercise final authority to issue changes to the agreement on behalf of FEMA, to obligate the Federal Government to the terms described herein, and to administer the terms of the Cooperative Agreement.

(4) Relationship. The PO does not have the authority to alter any obligations under this agreement. He is not authorized to make any representations or commitments of any kind on behalf of the AO or the United States or any of its agencies. Any circumstances which may arise requiring a change in the terms of this Cooperative Agreement shall be referred to the AO by the PO with analysis and recommendations. The AO shall retain final authority to adopt any changes to the Cooperative Agreement on behalf of FEMA.

(5) Identification:

The Project Manager is:
Name:
Telephone:
Address:

The Project Officer is:
Name: Charles D. Robinson
Telephone: (202) 646-3805
Address: FEMA Headquarters
500 C Street, SW
Washington, DC 20472

The Assistance Officer is:
Name: Joe D. Winkle
Telephone: (202) 646-3615
Address: FEMA Headquarters
500 C Street, SW
Washington, DC 20472

E. Cost Recovery.

(1) The execution of this Cooperative Agreement does not create an agency relationship between FEMA and the State.

(2) FEMA and the State agree that, with respect to the claims which each may be entitled to assert against any third person (herein referred to the as the "potentially responsible party", whether one or more) for reimbursement of any services, materials, monies or other thing of value expended by FEMA or the State for remedial activity at Mill Creek neither FEMA nor the State will enter into a settlement with or initiate a judicial or administrative proceeding against a potentially responsible party for the recovery of such sums except after having given notice in writing to the other party to the Cooperative Agreement no less than thirty (30) days in advance of the date of the proposed settlement or commencement of the proposed judicial or administrative proceedings. Neither party to this Cooperative Agreement shall attempt to negotiate for or collect reimbursement of any remedial costs on behalf of the other party, and authority to do so is hereby expressly negated and denied.

(3) FEMA and State agree to cooperative and coordinate in efforts to recover their respective costs of remedial actions taken at the site described herein, including the negotiation of settlement and the filing and management of any judicial actions against potentially responsible parties. This shall include coordination in the use of evidence and witnesses available to each in the preparation and presentation of any cost recovery action, excepting any documents or information which may be confidential under the provisions of any applicable State or Federal law or regulation.

(4) FEMA and the State agree that judicial action taken by either party against a potentially responsible party for recovery of any sums expended in remedial actions under the Cooperative Agreement shall be filed in the United States District Court for the judicial district in which the site is located, or in such other United States District Courts as may be authorized by Sec. 113 of CERCLA, and agreed to in writing by FEMA and the State.

F. Information On The Site.

(1) At FEMA's request, the State shall make available any information in its possession concerning the site, pursuant to State law. If said information was submitted by or to the State under a claim of confidentiality, said information will be treated accordingly. Absent such a claim, FEMA may make said information available to the public without further notice.

(2) At the State's request, FEMA shall make available any information and reports developed as part of its responsibilities under this Cooperative Agreement. The State agrees not to release any information to the public which FEMA has claimed as confidential and which potentially affects present or planned enforcement actions, unless the State notifies FEMA and FEMA has approved of such release.

G. Third Parties

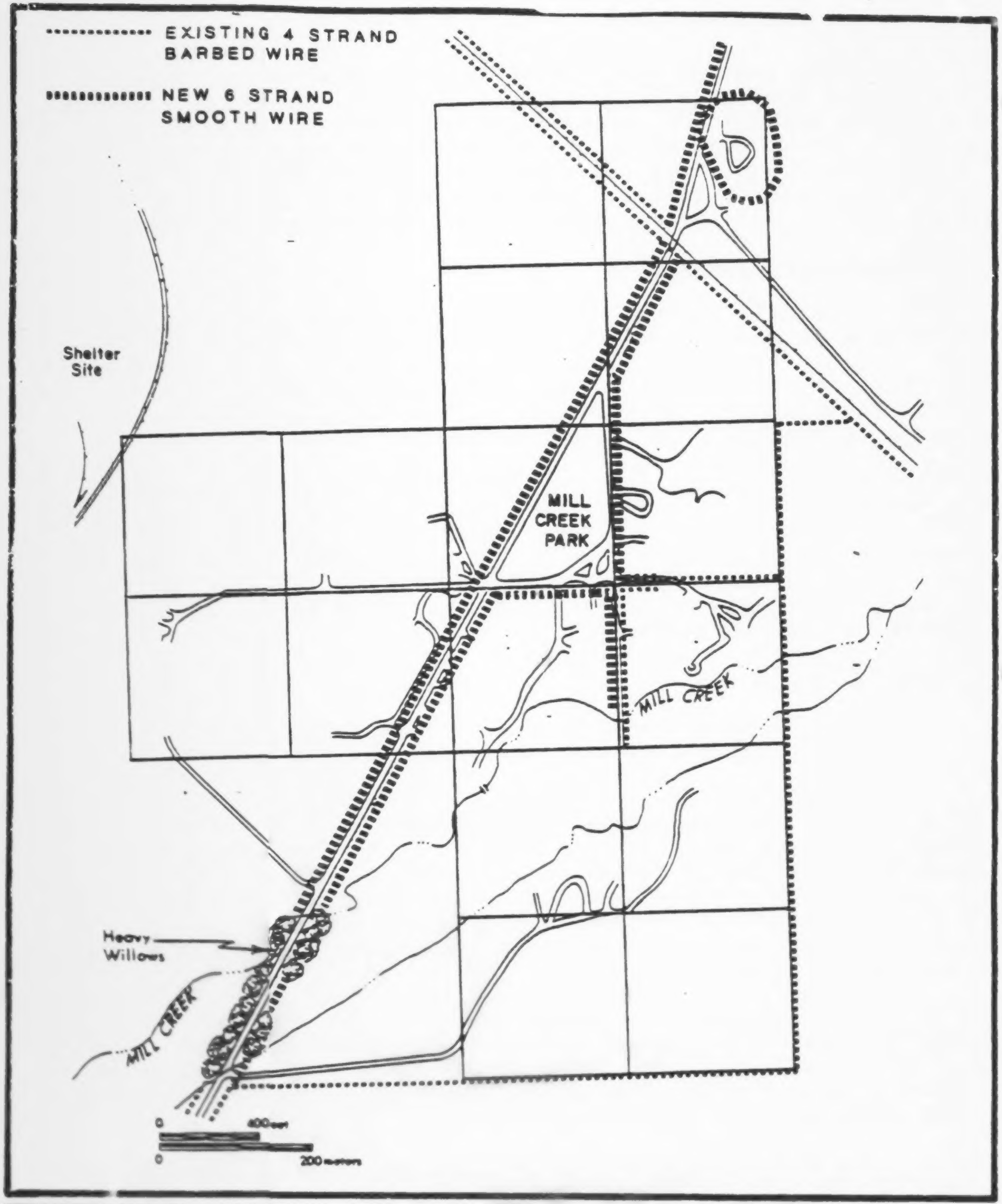
(1) This Cooperative Agreement is intended to benefit only the State and FEMA. It extends no benefit or right to any third party.

(2) FEMA does not assume any liability to third persons with respect to losses due to bodily injury or property damages that exceed the limitations contained in the provisions of 28 U.S.C. Sec. 1346(b). The State does not assume liability to FEMA or to any third person with respect to losses due to bodily injury or property damages or with respect to losses due to the enforcement of environmental statutes.

(3) FEMA and the State agree to notify the other party within 10 days of receipt of services of any action filed by a third party(ies) against either FEMA or the State, its employees or agents, as a result of work attempted or accomplished pursuant to the terms of this Cooperative Agreement.

(4) The State and FEMA may perform their duties under this Cooperative Agreement, with their own personnel and equipment or by contracting for the services of other governmental agencies, individuals, or private entitles.

EXHIBIT 5


EXISTING 4 STRAND BARBED WIRE
NEW 6 STRAND SMOOTH WIRE
Shelter Site
MILL CREEK PARK
MILL CREEK
Heavy Willows
MILL CREEK
0
400 feet
0
200 meters

permanent remedy, additional testing will be necessary to satisfy requirements concerning alternative treatment technologies.

Compliance with Other Environmental Laws

Subsection 121(d)(2) of CERCLA and 40 C.F.R. Section 300.68(i) together require that the lead agency select a cost-effective remedy that effectively mitigates and minimizes threats to and that provides adequate protection of public health, welfare, and the environment. Except as provided in Subsection 121(d)(4) of CERCLA, this requires selection of a remedy that attains or exceeds applicable or relevant and appropriate federal public health and environmental requirements identified for each specific site.

A comprehensive analysis of Federal and State ARARs has been conducted to identify and evaluate ARARs for all remedial alternatives considered in the Mill Creek RI/FS. It is an attachment to the Feasibility Study report. The identification of ARARs in the ARARs analysis was developed for purposes of conducting an RI/FS. The following discussion selects the ARARs that apply only to the selected alternative of permanent relocation and temporary site stabilization. ARARs associated with a permanent remedy will be selected in future operable unit decision selecting a final, permanent remedy. If EPA determines that relocation assistance should be handled by the Federal Emergency Management Agency (FEMA), the action would follow the rules pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (44 CFR Part 25).

Federal ARARs

- Primary and Secondary National Ambient Air Quality Standards for respirable particulate and lead (40 CFR Part 50).
- Montanas Air Quality Bureau's requirements for particulate matter and construction/demolition sites (ARM Sections 16.8.821 and 16.8.1401(3) and (4)).

RECORD OF DECISION

MILL CREEK, MONTANA

ANACONDA SMELTER SUPERFUND SITE

FIRST OPERABLE UNIT

OCTOBER 1987

Prepared by:
U.S. EPA
Region VIII
Montana Office

EPA

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RESPONSIVENESS SUMMARY

MILL CREEK OPERABLE UNIT

ANACONDA SMELTER SITE

ANACONDA, MONTANA

October 2, 1987

1.0 OVERVIEW

This Responsiveness Summary for the Mill Creek Operable Unit of the Anaconda Smelter Site was prepared to document and respond to the issues and comments raised by the public regarding activities of the U.S. Environmental Protection Agency (EPA) and Anaconda Minerals Company (AMC) at the smelter site. AMC is an operating unit of Atlantic Richfield Company (ARCO) and has responsibility within ARCO for managing the Anaconda smelter properties. In the State of Montana, this operating unit is commonly refered to as "Anaconda" or AMC. However, because AMC is legally a part of ARCO, all further references in the Responsiveness Summary will be noted as ARCO.

EPA prepared an Endangerment Assessment (EA) for Mill Creek and ARCO conducted and prepared a Remedial Investigation and Feasibility Study (RI/FS) to determine the health risks present to residents from concentrations of arsenic and other heavy metals that have resulted from historic smelter activities. A set of remedial alternatives that would protect the present and future public health and welfare of these residents was subsequently developed and made known to the public. These alternatives and the public reaction are summarized in this section.

1.1 REMEDIAL ALTERNATIVES

The Agency (EPA) identified thirteen remedial alternatives in the draft FS for the Mill Creek Operable Unit. Among these alternatives: five involved relocation of residents; four involved removal of contaminated soils; two would make use of soil fill and a sod cap to cover the contaminated soil; one called Common Response Actions would require paving of walkways and driveways, replacement of water supplies, house-cleaning, and replacement of water heaters; and lastly, a "no action" alternative meaning EPA would do nothing at the site.

Four of the thirteen alternatives were identified as the leading alternatives. These alternatives were: relocation of all residents; relocation of all residents and residents' houses; partial relocation with complete soil removal and on-site disposal; and partial relocation with partial soil removal, on-site disposal, and partial soil till. In order to fulfill its primary objective, the protection of public health and welfare of the current residents of Mill Creek, EPA's preferred alternatives involved the relocation of all residents. Soil treatments and other such issues would be considered in the Master RI/FS for the Anaconda Smelter Site as part of the longer-term public health and environmental issues remaining after resident relocation.

1.2 PUBLIC REACTION TO THE PREFERRED ALTERNATIVES

At the time of the public comment period, which opened in December 1986 with the release of the draft FS and closed February 1987, permanent relocation was identified as the preferred alternative by EPA. Subsequently, EPA has chosen relocation of all residents as the selected alternative. It was judged as the most cost-effective and environmentally preferred alternative that would provide for adequate protection of the health of the current residents of Mill Creek.

Public reaction as recorded in written comments or voiced at public meetings was mixed. Atlantic Richfield Company (ARCO), the responsible party, expressed, in several written documents, reservation at the necessity of relocation based upon data and conclusions in the Endangerment Assessment document.

State and local agencies also responded to EPA's activities. The Anaconda-Deer Lodge County Commission expressed a preference for voluntary partial relocation and complete cleanup so that environmental factors would not be an issue in future land use decisions. The Montana Department of Health and Environmental Sciences (MDHES) supported the selection of the four leading alternatives but did not put forth a favored alternative. In principle, MDHES favors remedial actions that are final and lead to site delisting. EPA received subsequent concurrence from MDHES when the selected alternative was chosen. Concurrence with the selected alternative was also received from the Federal Emergency Management Agency (FEMA).

EPA requested that the Agency for Toxic Substance and Disease Registry (ATSDR) evaluate the RI/FS reports for the Mill Creek operable unit. ATSDR stated that the selection of Alternative 1, Relocation of all Residents, would maximally reduce all public health risks. Comments were submitted on the information used to establish the risk at Mill Creek.

Residents of Mill Creek expressed their reactions to the Agency in various ways; some commented individually, some through a law firm which represented twenty-two residents, and some through a Mill Creek resident who conducted an informal telephone survey. Resident reaction to relocation was divided. About half were willing to move depending on the settlement for their property. About a third expressed an unwillingness to move under any conditions. Others favored soil removal and partial relocation. Many residents expressed concern about the disruptive effect site activities had on their personal lives and on the life of their community. Negative effects on property values and future health problems were additional issues raised in reaction to the relocation alternatives.

2.0 BACKGROUND ON COMMUNITY INVOLVEMENT

2.1 THE COMMUNITY RELATIONS PROGRAM AT THE MILL CREEK OPERABLE UNIT OF THE ANACONDA SITE DURING THE PREPARATION OF THE RI/FS

EPA's activities at the Mill Creek Operable Unit began in late 1984 with the completion of a preliminary Endangerment Assessment in October 1984. In order to make information on the Operable Unit available to residents of Mill Creek and to the general public, EPA established information repositories at the Hearst Free Library and the Metcalf Senior Citizens Center in Anaconda, Montana where fact sheets and the project documents would be kept. EPA also provided for a resident Community Relations Specialist to work with the community of Mill Creek, primarily to explain RI/FS activities to the citizens and to obtain their input. In addition, during the preparation of the RI/FS, EPA representatives met monthly with Mill Creek residents and the Mill Creek Residents' Association.

EPA also participated in local meetings and held discussions with ARCO, the general public, and federal, state, and local agencies. In addition a public meeting to discuss the results of the urinary arsenic study and a public meeting on Superfund activities were conducted by EPA. All of the above mentioned interested groups and entities were consulted in planning and conducting the investigations and evaluations for the RI/FS. All were invited to attend monthly meetings of the Environmental Advisory Committee for the Anaconda Smelter site, where EPA presented and discussed information about the site and options for action. The Environmental Advisory Committee included groups and agencies such as city and county officials, local environmental groups, state officials and EPA representatives. EPA prepared and distributed summaries of these meetings, including EPA responses to issues raised by those who attended. EPA also prepared and distributed six fact sheets with information directly relevant to the Mill Creek Operable Unit.

2.2 SUMMARY OF MAJOR COMMUNITY CONCERNS AND EPA'S RESPONSE DURING THE PREPARATION OF THE RI/FS

Major community concerns that were expressed about the Mill Creek Operable Unit from October 1984 following the completion of the preliminary EA until December 1986 when the RI/FS was released and the formal comment period began can be grouped into five categories. There were questions and concerns about: 1) the remedial alternatives, 2) health risks, 3) cost and funding for cleanup, 4) loss of property values and sense of community, and 5) the Superfund process.

Remedial Alternatives

Concern: The Mill Creek Residents' Association expressed concern that the lack of consensus in the community concerning relocation would negatively effect EPA's decision-making policy and procedure. Residents felt that individual needs would not be addressed in the selection of the remedial alternatives due to this division.

Cleanup alternatives were viewed as not really feasible in the long-run because of several reasons: wind erosion would cause recontamination from contaminated areas outside the community, the size of the cleanup area, and recontamination from property not undergoing cleanup within the community. There were basic information requests concerning details of EPA's proposed removal plan and the extent of soil cleanup necessary to adequately protect children from exposure to contaminated soil.

Response: EPA addressed these concerns in monthly meetings with the Mill Creek Residents' Association. A community relations specialist was provided by EPA to provide current information on the EPA's activities and decisions. EPA prepared and distributed question-answer fact sheets for the residents of Mill Creek.

Health Concerns

Concern: Community health concerns focus primarily on the short- and long-term effects of arsenic exposure on their health, especially the health of their children. In particular, they needed information on what effects of arsenic EPA was studying, where arsenic accumulates in the body and what measures EPA had or was going to make in order to reduce the exposure to arsenic. Some residents asked about adult exposure to arsenic and a rancher sited cattle death from arsenic poisoning and asked if humans were also at risk. Questions were also raised about the health effects of exposure to elevated concentrations of other metals (cadmium and lead) found at the Mill Creek site.

Concerns for pregnant women and other issues related to cancer incidents were expressed.

Response: EPA implemented the following activities in response to these concerns.

- families with children age six and under and other families who may have been at risk from arsenic contamination were relocated pending implementation of a permanent solution to the problem;
- the Mill Creek RI/FS was expedited in order to develop an early solution to the contamination problem;
- the Centers for Disease Control (CDC) was asked to assist in developing the initial study that revealed the high arsenic exposure among the children of Mill Creek, and later to address specific health concerns at two public meetings and with individuals in the community;
- ARCO was required to oil the dirt roads in Mill Creek to reduce residents' exposure to airborne arsenic-contaminated road dust.
- ARCO was ordered to limit exposure to contamination by covering flue dust piles, monitoring the effectiveness of the flue dust cover, assuring controls of dust during demolition at the smelter, and posting warning signs near areas containing flue dust:
- Mill Creek homes were provided with thorough professional house-cleaning to reduce the indoor exposure to arsenic; and

- Mill Creek families were informed about precautions they could take to reduce their exposure to arsenic.

Cost and Funding

Concern: Prior to October 1986 there was concern that funding for the remedial action at Mill Creek might not be available due to the delay in the reauthorization of Superfund. Questions were asked about the amount of money spent by EPA on the remedial planning efforts thus far and about who would bare the ultimate cost responsibility for removal and relocation activities.

Response: EPA officials assured residents that funding was available for temporary relocation and for the expedited Mill Creek RI/FS and proceeded on the assumption that Superfund would be reauthorized. Superfund was reauthorized in October 1986.

Property Values and Stress

Concern: Negative effects on property values resulting from EPA's activities was a pressing concern for residents during remedial planning. They requested that EPA provide full replacement value for their homes if permanent relocation was selected. Residents who wanted to remain in Mill Creek requested compensation for the devaluation of their property and some residents were concerned about losing the right to compensation for permanent relocation if they accepted temporary relocation.

Response: EPA responded to questions by stating compensation rules under Superfund. Replacement value would be considered and moving costs are often paid; however, EPA can not provide compensation for losses in market value for residents who remain in Mill Creek nor compensation for stress. Temporary relocation would not affect compensation for permanent relocation.

The Superfund Project Process

Concern: Residents expressed concern over the length of time that passed before contamination was discovered at the Mill Creek site and the long process to identify a satisfactory solution to the problem. Some residents felt data were not always available.

Questions were raised about citizens input into the decision making process, what factors are considered in selecting a preferred alternative, separation of families, access to private property, and what recourse residents might have to reject the selected alternative.

Response: EPA participated in meetings with residents at which these concerns were raised. EPA solicited input from residents and assured them it would be considered. However, the protection of public health and welfare would remain EPA's first priority.

Scientific study is often slow, but EPA attempted to expedite the RI/FS process as much as possible and release data to the public when it was finalized.

3.0 SUMMARY OF PUBLIC COMMENTS ON THE RI/FS AND ENDANGERMENT ASSESSMENT AND AGENCY RESPONSES

This section summarizes EPA's response to comments received during the public comment period concerning the Mill Creek Operable Unit. Written comments were received from ARCO in two documents: Comments on Mill Creek RI/FS CERCLA Docket VIII 86-07, February 3, 1987 and Comments on Endangerment Assessment: Mill Creek Montana, Anaconda Smelter Site, December 1, 1986, and in Attachment 3: Supplemental Legal Concerns, February 4, 1987. Written and verbal comments were received from individual citizens and their representatives. Comments were also received from Montana state and local agencies. ATSDR submitted comments on the RI/FS as requested by EPA.

EPA has grouped these comments according to topical areas and has prepared responses to them. The commentor is identified in parenthesis at the end of each comment. A complete list of individual commentors is found in Appendix B at the end of the Responsiveness Summary.

3.1 ENDANGERMENT ASSESSMENT

Comments received by EPA on the Endangerment Assessment are grouped into the topical areas of Risk Assessment, Toxicology, and Exposure and are responded to by EPA in the following sections.

3.1.1 RISK ASSESSMENT

Uncertainties Inherent in Risk Assessment

1. **Comment:** "...the EA failed to follow EPA guidelines (for the conduct of risk/endangerment assessments)...(in its) neglect of uncertainties in risk characterization... Given the high degree of uncertainty (in the EA risk estimates), it could also be argued that the actual health risks may be much lower than those estimated." (ARCO)

   Response: The EA discussed the uncertainties associated with estimating the exposure/risks to Mill Creek residents (e.g., bottom of pp. 46,87). In addition, calculated risks to area residents were described as "most probable" and "worst case" risk estimates, not as absolute risks. The finalized PHE manual suggests that uncertainties should be indicated in the risk assessment. Although the 1986 EA did address uncertainties, a more detailed discussion of uncertainties has been presented in the revised EA. Additionally, scientific publications and reports dealing with the health effects of contaminants, such as that issued by the Risk Assessment Forum of the EPA, extensively discuss any uncertainties relevant to the issues.

2. **Comment:** Risk assessment are always based on limited data, assumptions, and models. The uncertainties inherent in this process have not been addressed. (ARCO)

   Response: Although the original EA addressed the specific uncertainties associated with the assessment of risks in Mill Creek (see response to comment 1 above), a more detailed discussion of the uncertainties inherent in the risk assessment process has been provided in the revised EA. Again, it should be pointed out that articles published in the scientific literature or produced by various regulatory agencies commonly include discussions of scientific uncertainty in order to place issues in perspective.

Studies on the Effects of Exposure

3. **Comment:** "The EA failed to consider the fact that there appears to be no observable adverse health effects to the residents of Mill Creek or of other communities with similar or even greater exposures to arsenic." (ARCO)

   Response: The EA considered the evidence that exposures to contaminants in Mill Creek have not been shown to cause acute toxicities (see p. 87, last paragraph). That has little relevance to the carcinogenic risks being experienced by Mill Creek residents at exposure levels too low to cause acute, readily discernible toxicities. It must be emphasized that the primary risks identified at Mill Creek are to children whose risks of cancer will not become apparent for many decades. The long latency of arsenic-induced skin cancer, combined with the relatively small population of Mill Creek, would make it difficult to discern a statistically valid change in the number of cancers in Mill Creek residents. Noncarcinogenic health effects will also be difficult to identify because of the levels of exposure and the small numbers of individuals involved.

4. **Comment:** The Endangerment Assessment does not consider the Montana Air Pollution Study (July 1981) that demonstrates a high incidence of respiratory disease (including cancer) and circulatory disease in the study area. (Public)

Response: The purpose of the EA is to assess risks associated with current or future use of a particular study area. The Montana Air Pollution Study addresses risks that occurred in the past, probably as a result of the smelter operation. Because the smelter is currently shut down and is unlikely to reopen, results obtained in the Montana Air Pollution Study are not directly applicable to current or future exposure and were not considered in the EA.

Exposure to Other Environmental Agents

5. Comment: "Incidence rates of lung cancer due to natural background sources of exposure are much higher than arsenic and cadmium induced rates in Mill Creek. According to EPA's radon report, certain regions of western Montana are likely candidates for elevated radon levels. The lung cancer mortality risks corresponding to these levels (200 picocuries per liter) range from 440-770 cases per 1000." [Average radon levels (4 picocuries per liter) can pose risks ranging from 13-50 cases per 1000.] (ARCO)

   Response: The existence of background risks to other causes was irrelevant to the focus of the EA which was the calculation of risks resulting from environmental contamination. The purpose of the EA was to assess the risks associated with contamination from specific substances at Mill Creek, and to determine whether or not this contamination poses an imminent and substantial endangerment to public health, welfare, or the environment, irregardless of other non site-related risks. If anything, lung cancer risks due to naturally occurring radon would be additive to these caused by environmental contaminants, making the lung cancer risks even higher than calculated in the EA.

Exposure to "Background" Levels of Contamination in Neighboring Towns

6. Comment: Additional perspective on the risk to residents at Mill Creek would be provided by preparing worst-case and most probable estimates of risk to residents in the reference communities of Livingston, Townsend, and Phillipsburg, Montana. (ARCO)

   Response: The EA addressed the health risks to residents of Mill Creek that result from the ARCO smelting activities. To compare those estimates of risk to similar estimates for residents of reference committees with uncertain environmental contamination would be inappropriate.

Health Risks

7. Comment: Worst-case risk estimates are based on combining maximum concentrations of contaminants in all media. As it seems extremely unlikely that the same individual would be exposed to maximum concentrations in several media, this approach may give unrealistic estimates of human exposure. (ARCO)

   Response: Although it is unlikely that any one individual would experience exposure to maximum concentrations of contaminants in the various media, the EA presented the range of possible risks for illustrative purposes. The worst-case or highest probable exposure is used to provide an upper limit to the possible risks.

8. Comment: The use of a time-weighted approach to estimating exposure, which would allow consideration of difference in contaminant concentration between high use and low use areas, would have more accurately reflected risks to Mill Creek residents. (ARCO)

   Response: There are no data available to justify the use of the high use and low use areas proposed by ARCO.

9. Comment: The Endangerment Assessment fails to demonstrate imminent and substantial endangerment. (ARCO)

Response: Given the demonstration of high exposures of Mill Creek residents to carcinogenic and toxic substances, the EA established an imminent and substantial endangerment.

10. Comment: Risks to adults were not adequately addressed. (Public)

Response: Risks to adults were considered in the EA, but the risks to children were emphasized because of the obligation to protect the most sensitive population.

11. Comment: The risk assessment should not be based exclusively on cancer risks, but should also emphasize other health risks. (Public)

Response: The EA emphasized cancer risks because they were the risks of greater concern. However, other health risks have been more fully developed in the revised EA.

Comparison of Concentrations of Contaminants to Applicable or Relevant and Appropriate Requirements (ARARs)

12. Comment: "...the EA failed to follow EPA guidelines (for the conduct of risk/endangerment assessment)...(in its)...failure to compare media concentrations with requirements, standards and criteria." (ARCO)

Consideration of ARARs is central to the baseline public health evaluation at Superfund sites, and, therefore, they should be considered for the Mill Creek assessment. (ARCO)

Response: Evaluation and Identification of "Applicable or Relevant and Appropriate" Federal and State Requirements for Mill Creek.

Montana, CERCLA Site has been prepared by the EPA and referenced in the revised EA.

13. Comment: The ambient water quality criteria for arsenic (EPA 1980) is not an ARAR for ground water. (ARCO)

    Response: The identification of the drinking water ARAR for arsenic (water quality criteria vs. MCL) has been deferred to a later operable unit. See "Evaluation and Identification of "Applicable or Relevant and Appropriate" Federal and State Requirements for Mill Creek, Montana, CERCLA Site".

15. Comment: The MCLs are ARARs for drinking water.

    Response: As stated in the review of ARARs for Mill Creek ("Evaluation and Identification of "Applicable or Relevant and Appropriate" Federal and State Requirements for Mill Creek, Montana, CERCLA Site"), MCLs for arsenic, cadmium, and lead are set forth at 40 CFR Section 141.11. These MCLs are not legally applicable to the current Mill Creek drinking water supply because it is not a public water system. However, they are potentially relevant and appropriate.

3.1.2 TOXICOLOGY

Inappropriate Cancer Potency Factors with Respect to Ingestion Exposures to Arsenic.

1. Comment: "of greatest concern is the use of the Carcinogen Assessment Group model and its estimated potency (unit cancer risk) factor is assessing lifetime skin cancer risk due to arsenic ingestion in Mill Creek." (ARCO)

   Response: EPA has reviewed the CAG model and has endorsed it as relevant and appropriate for use in risk assessments. As is the

Agency policy with all scientific issues affected by new information, the potency factor for arsenic was reviewed and was updated as a result of a series of actions extending over the past year. Based upon the best available information and on a consensus opinion reached by the EPA Risk Assessment Forum, the CAG potency factor has been adjusted. The new value in the October 1986 draft Risk Assessment Forum Report applies to ingested arsenic and has been used in estimating risks at Mill Creek.

2. Comment: "The EA based its estimate of skin cancer from arsenic ingestion of a Taiwan study which is known to be flawed because: the investigators were not 'blinded' as to (exposure);... the Taiwanese drinking water supply was contaminated with other toxic substances known (to have effects on the skin);... the exposed population was racially different...; the Taiwanese study population had nutritional deficiencies and skin conditions... that might influence the disease outcome; and the actual exposure levels from food, soil and water,... are poorly documented..." (ARCO)

   Response: It would not have been possible to "blind" a study of this kind, since it would have involved moving people between villages, etc. The possible relationship of other contaminants in the well waters of Taiwan to skin cancer is highly speculative; however, the relationship of ingested arsenic to skin cancer is firmly established. The significance of the comment about race is obscure, and its relevance to the induction of skin cancer by ingested arsenic is unclear. Melanoma, which has been observed to have different prevalence rates in various races, is not at issue in Mill Creek. Any nutritional deficiencies or skin conditions in the Taiwan population may well be similar to those found in the population found in Mill Creek. And, finally, the actual exposure levels of the Taiwanese have been discussed at some length in the CAG document and are felt to be adequately characterized for risk assessment purposes.

The Taiwan study of the risks of arsenic in drinking water is not flawed in the sense that it doesn't provide useful data as implied by the ARCO comment. As with any study, there are minor deficiencies that an epidemiologist would wish to avoid in the design of a perfect study, but the end result of the deliberations of the Risk Forum is a scientific consensus that the data are sufficient to indicate a real human risk of skin cancer from arsenic in drinking water. The October 1986 risk estimate adjusts the unit risk from arsenic ingestion for survivorship for the larger water consumption of Taiwanese as compared with U.S. males, utilizes a maximum likelihood approach, and employs a model which is quadratic as well as linear in dose.

3. Comment: The study 'Feasibility Study to Resolve Questions on the Relationship of Arsenic in Drinking Water to Skin Cancer' recommended that the Taiwan based prevalence model should not be used to predict the risk of arsenic... This study was not referred to in the EA, nor was it listed in the table of references, nor was the model modified. (ARCO)

   Response: The "Feasibility Study to Resolve Questions on the Relationship of Arsenic in Drinking Water to Skin Cancer" (Andelman and Barnett 1983) was considered during the preparation of the EA. It was not referenced because it is a document that primarily deals with drinking water considerations, whereas the primary exposure of concern at Mill Creek is with contaminated soil. The suggested modification to the CAG risk model for arsenic carcinogenicity (national differences in incidence and prevalence) was not incorporated into the EA because the Agency had not yet endorsed these changes in the model. The Andelman and Barnett report has been addressed in the new arsenic report by the Risk Assessment Forum and has been acknowledged in the bibliography of the final EA.

4. Comment: "The EA appears to have ignored the statements of the EPA Office of Drinking Water in its Draft Arsenic Health Advisory dated

September 30, 1985, which concludes that 'it is judged that there is currently no suitable quantitative risk estimate for excess cancer due to cancer ingestion which is applicable to the US...'. The EA does not in any way attempt to reconcile the risk estimates it derives with the concern in the EPA draft Document." (ARCO)

Response: Although the EPA Office of Drinking Water Draft Health Advisory (HA) was released while the EA was in the final stages of preparation, the draft views expressed in the HA were considered by the scientists preparing the EA. The body of evidence supporting the carcinogenicity of ingested arsenic is overwhelming. Therefore in order to protect human health it is appropriate to use the CAG evaluations of the best available data, which, for ingested arsenic, are in the Taiwan Study. The questions raised about the Taiwan drinking water epidemiological study, i.e., that there are racial differences to arsenic induced skin cancer, that there were other sources of arsenic in the Taiwanese diets, or that there may have been other carcinogens in the deep well waters, have been considered in reaching this decision, and have not changed that evaluation, nor have they prevented the Risk Assessment Forum, which considered the same issues, from endorsing the CAG approach. Additionally, the draft Health Advisory has not been adopted as a final Agency position on arsenic toxicity or on the Taiwan study.

5. Comment: In addition to the EPA Office of Drinking Water, EPA Administrator Lee Thomas also acknowledges the flaws of the Taiwan based model. In a letter to Senator Paul Laxalt, Administrator Thomas cited concerns over the deficiencies of the Taiwan model as one of the bases for his decision to postpone enforcement action under the Safe Drinking Water Act in Fallon, Nevada. Again the EA fails to acknowledge or address the position taken by Administrator Thomas. (ARCO)

Response: EPA acknowledges this position taken by the Agency. However, the Risk Assessment Forum is working to resolve these concerns. The October 1986 draft report of the Risk Assessment Forum supersedes the draft Health Advisory and the correspondence related to Fallon, Nevada, and represents a new Agency position based on the best available information.

6. Comment: "Preliminary results from (an EPA study presented at the) November, 1986 Annual Meeting of the Society for Risk Analysis indicate the EPA now believes that inorganic arsenic potency is more than an order of magnitude less than the value used in the EA." (ARCO)

   Response: The Risk Assessment Forum has recommended that the UCR be moved approximately "one order of magnitude" because of new assumptions made when calculating the apparent risk. These include 1) assuming that males performing manual labor in the hot climate drink 3.5 liters of water per day; 2) adjusting the analysis for surviorship in the U.S. population; and 3) using both quadratic and linear dose assumptions to better fit the data to the model. The revisions to the UCR are designed to respond to issues that have been raised by interested parties and that they represent the consensus of the Forum.

7. Comment: ARCO believes that the skin cancer risks in the EA should have been determined based on mortality rather than morbidity and that the morbidity/mortality issue would be considered in determining appropriate remedial measures. (ARCO)

   Response: To calculate cancer risks based solely on mortality would not be protective of human health and welfare. Although ARCO is correct in indicating the much lower mortality for skin cancer than for other tumors, this lower mortality is primarily due to the ease of early detection and subsequent treatment. If undiagnosed and not removed, skin cancers can become invasive, metastasizing to various internal sites where they are much more lethal. Additionally, the skin cancers which have been most easily associated with arsenic exposures are those which occur on non-sun exposed areas. These types of non-melanoma skin cancer may have a worse prognosis than tumors occurring on the sun exposed areas, thus these tumors may well have higher mortality rates than the majority of non-melanoma skin cancers (as cited in Laerum and Iverson 1981).

In addition, there are new data that implicate arsenic as a cause of internal cancers, including lung, liver, bladder, and kidney tumors (Chen et al., 1985; Chen et al., 1986). These tumors are expected to have high mortalities.

8. Comment: "With respect to the calculation of excess skin cancer risks, ARCO notes that there is a extra conservatism in an arsenic exposure parameter (the parameter "m") used in the CAG model. (ARCO)

   Response: The revised arsenic UCR calculated by the Risk Assessment Forum has addressed this issue by using a different approach in estimating the shape of the dose response curve at lower exposures.

9. Comment: The CAG model inappropriately excludes the lower cancer rate found among females in Taiwan. Omitting these conservatisms would result in a net reduction in risk estimates of about a factor of ten." (ARCO)

   Response: The CAG model has always considered the cancer rates in females, and the revised UCR developed by the Risk Assessment Forum has calculated cancer risks for males and females. The emphasis on males in the EA has been due to the need to protect the most sensitive population, as there are both male and female residents of Mill Creek.

10. Comment: "An Argentine study linking very high levels of arsenic in drinking water with skin cancer has been referred to in the EA in a

way that obscures the authors' actual conclusions for the situation of interest in Mill Creek." (ARCO)

Response: The comment in the EA referred to the Astolfi et al (1981) study to put the relative arsenic ingestion levels which were found to cause arsenic intoxication and skin cancer in perspective, and was not considering other issues. Although the authors' basis for claiming that "regular intake of drinking water containing more than 0.1 ppm of arsenic leads to clearly recognizable signs of intoxication, and ultimately in some cases to skin cancer" was their review of observations in Taiwan, Germany, Chile, and Argentina, they concluded that drinking water containing <0.2 ppm probably was "not sufficient to cause chronic arsenicism and subsequent cancer" in their Argentina study. Interestingly, the mortality rate from the high arsenic regions of Cordoba for cancer was 23.8% versus 15% for the entire province.

11. Comment: "The EA's conclusions regarding the risks due to arsenic ingestion at Mill Creek are totally at odds with the EPA's promulgated drinking water standard for arsenic." (ARCO).

Response: The Agency has compared the total lifetime ingested arsenic dose in Mill Creek to the MCL and found the Mill Creek dose to be 2.86 ug/kg/day compared to the equivalent MCL dose of 1.43 ug/kg/day. However, the comparison of total ingested arsenic dose in Mill Creek to the MCL and the proposed RMCL (MCLG) at Mill Creek is inappropriate for the reasons described below. A comparison of soil contamination to the MCL for arsenic is inappropriate. EPA's "Superfund Public Health Evaluation Manual (page 58, ICF, October 1986) states that "ARARs should correspond to the medium (e.g., air, water) for which they were developed and must be applicable or relevant and appropriate for site conditions." MCLs are clearly not applicable to soil contamination. MCLs are required by law to reflect the technological and economic feasibility of removing contaminants from drinking water.

(See Section 1412(b)(4) of SDWA and page 58 of Superfund Public Health Evaluation Manual). Such considerations are clearly not "relevant and appropriate" to soil concentrations at Mill Creek. Technical and cost considerations of drinking water treatment are simply not relevant to soil contamination. In addition, the technical and economic feasibility of soil removal are not a significant issue at Mill Creek. Such removal is technically and economically feasible.

SARA and the NCP allow identification of cleanup goals that attain or exceed ARARs (Section 121(d) of SARA, 40 CFR Section 300.68(1) and 50 Fed. Reg. 47919 November 20, 1985). The Agency's Superfund Program has established a 10^{-6} excess cancer risk as its remedial action primary target. On a site specific basis the Agency can establish a remedial action objective of between 10^{-4} and 10^{-7} excess cancers. At Mill Creek the background concentration of arsenic in soils is approximately 9 to 16 micrograms/gram. This level of arsenic in soil yields a 1.7×10^{-5} excess cancer risk for the "reasonable maximum scenario" and 1.7×10^{-6} excess cancer risk for the "average case scenario". Both of these scenarios yield an excess cancer risk calculation falling between 10^{-4} and 10^{-7} excess cancers, and the "average case scenario" cancer risk is the same as the 1×10^{-6} excess cancer risk primary target established by the Agency's Superfund Program. In accordance with the guidance which permits site specific decisions, EPA has preliminarily identified the background soil arsenic concentration of approximately 9 to 16 micrograms/gram as the remedial action objective at Mill Creek.

The primary taret for overall site cleanup to 10^{-6} excess cancers for the cumulative dose from all pathways will be used in establishing the potential cleanup levels for the site. The measure of cleanup success for drinking water has been preliminarily identified as the detection limit for arsenic or 4 µg/l. For risk assessment purposes, EPA assumes that one half the detection limit of 2 ug/l arsenic remains in the drinking water. Based on the Risk Assessment Forum's October 1986 draft document addressing the health effects of inorganic arsenic, the risk associated with this level of drinking water exposure is 1×10^{-4} in males. For soils the arsenic concentration at background levels is 9 to 16 micrograms/gram. The cancer risk associated with this arsenic level is 1.7×10^{-6} using the average exposure scenario. Similarly, background concentrations in air correspond to a 5.7×10^{-5} and 1.7×10^{-5} excess cancer risk for arsenic and cadmium, respectively. Clearly EPA's primary target of 10^{-6} excess cancer risk as a site-specific cleanup target is not appropriate when natural background levels of these elements exceed a 10^{-6} cancer risk.

12. Comment: "EPA has permitted exposures which exceed the drinking water standard to persist without requiring action." (ARCO)

Response: As discussed above, the arsenic MCL is not the correct "ARAR" for soils or drinking water at Mill Creek. The MCL for arsenic is set forth at 40 CFR Section 141.11 at 50 ug/l, but the MCL is not legally applicable to the Mill Creek drinking water supply because it is not a public water system. However, the MCL is potentially relevant and appropriate since it is applicable to alternative public water systems which may be available to Mill Creek. In addition, variances granted under Section 1415 of SDWA are granted only where there is poor raw source water which cannot meet an MCL after application of the best treatment technology, treatment techniques, or other means which EPA finds are available taking cost into consideration. Exemptions granted under Section 1416 of SDWA are granted only where, due to compelling factors (including economic factors), a water system is unable to comply with the MCL.

Variances and exemptions can only be granted upon a finding of no unreasonable risks to health, upon establishment of a compliance schedule to cause site compliance with the MCL, and mitigation measures such as medical monitoring, alternative water supplies, etc., to protect health during the limited duration of the variances and exemptions. See "Guidance for the Issuance of Variances and Exemptions" (May 1979, Office of Drinking Water, WSG 64).

In addition, the unique factors pertaining to EPA and State SDW enforcement discretion at individual community water supplies are not related to or relevant to CERCLA or Mill Creek, Montana's problems.

13. Comment: "Dietary inorganic arsenic intake has been and may be substantial and may in certain population subgroups exceed arsenic exposures in Mill Creek." (ARCO)

    Response: The intake of arsenic from dietary sources has little bearing on the risk assessment which is concerned with incremental environmental risk. Use of the UCR from the Taiwanese study for the population in Mill Creek requires the assumption that the dietary levels of arsenic are the same in the two populations. Indeed, if populations in Mill Creek have a greater dietary intake of arsenic than the Taiwanese, then the risk estimates should be revised upward to take into account the additional intake of arsenic from dietary sources.

14. Comment: "Elevated urinary arsenic levels are not an adverse health effect or an indicator of such effects, but are merely an indicator of arsenic exposure." (ARCO)

    Response: Elevated urinary arsenic is an indicator of higher than normal arsenic exposure. Given the carcinogenicity and toxicity of arsenic, it is prudent to consider the possible adverse effects in individuals with higher than normal exposures.

15. Comment: "Evidence suggests that arsenic metabolism and induction of adverse effects may operate in a nonlinear fashion. (Some data suggest) a threshold or non-linear response region may exist for the induction of cancer." (ARCO)

Response: The data suggesting a threshold or non-linear dose response region for the induction of cancer are tenuous at best. The fact that there is evidence that one pathway of metabolism saturates at high levels of exposure is hardly convincing given that the mechanism of arsenic induced carcinogenesis is unknown. The reversibility of some precursor skin lesions would also be difficult to evaluate. Risk assessment methods currently in use have no way of incorporating this latter type of information. The use of the linear nonthreshold dose response model is perhaps a conservative assumption (as stated in the EA); however, no other assumptions with regard to plausible dose response relationships are either useful or defensible with the current state of knowledge. When the Risk Assessment Forum applied a quadratic model to the Taivan data to compare the goodness-of-fit to the linear model, the results were quite comparable, indicating that use of the linear nonthreshold dose model was appropriate.

Additionally, the progression and reversibility of the early lesion is totally irrelevant to the metabolism of arsenic. The issue of nonlinear metabolism was addressed in the Risk Assessment Forum document which cited evidence that methylation capacity in humans is not saturated until doses on the order of 600 to 1000 ug per day (several orders of magnitude over the estimated exposures at Mill Creek) are reached.

16. Comment: The discussion of negative epidemiological studies is very limited, "the EA appears to be selectively excluding studies and information which contrast with its chosen position in the EA." (ARCO)

Response: The negative epidemiological studies reported in the literature were considered in preparing the EA. The studies were generally flawed and of inadequate quality to detect effects. Problems with these studies are noted in the Health Assessment

Document for Inorganic arsenic (EPA (1984) and are included in the EA by reference. Additionally, the other epidemiological studies were considered by the Risk Assessment Forum as reflected in the October 1986 draft report and were found to be deficient. The Forum reaffirmed the appropriateness of using the Taiwan study for risk assessment purposes.

Inappropriate Cancer Potency Factors with Respect to Inhalation Exposure to Arsenic

17. Comment: "Overall, the EA risks from arsenic inhalation are overestimated because the occupational data that EPA used is the basis for the cancer potency estimate included inhalation exposure to cadmium as well as arsenic. Separate consideration of cadmium and arsenic inhalation in Mill Creek results in double counting the risks posed by these elements. The EA should have taken the effects of double counting into consideration in the assessment of cadmium and arsenic inhalation risks." (ARCO)

    Response: The UCRs have been developed with an awareness of possible concomitant exposures to other contaminants. Consequently, the UCRs have already been adjusted where adequate data exist to make such modifications. When possible, the UCRs have been based on studies that have one primary contaminant. Therefore, the UCRs for arsenic and cadmium are reflections of only arsenic or cadmium exposures and risks, respectively. See EPA (1984) Health Assessment Document for Inorganic Arsenic for further detail.

18. Comment: "in the case of arsenic,... the Agency did not adjust for the contribution of smoking to the observed lung cancer risk when calculating the UCR." (ARCO)

    Response: The Agency considered the potential contribution of smoking to lung cancer risk in deriving the UCR for arsenic but did not adjust for smoking because the data were often not available. The Agency considered the evidence sufficient to show that arsenic was responsible for the increased incidence of respiratory cancer in exposed workers irregardless of other exposures. (EPA, 1984 Health Assessment Document for Inorganic Arsenic). The Agency acknowledges that the unit cancer risk is an upperbound estimate of risk, i.e., that actual risks may be lower but are unlikely to be higher than the UCR. Even if smoking did have an impact on lung cancer rates in the reported studies, the UCR would be applicable to populations with a similar population of smokers to that of the work place studied.

19. Comment: "...the Agency did not attempt to apportion the observed lung cancer incidence among... contributing causes (in deriving the UCR's for cadmium and arsenic from studies with confounding exposures, e.g., beryllium, sulfur dioxide). The failure to consider these additional factors leads to an inflation of the UCRs developed from these studies which instead of reflecting the results of exposure to a single substance actually represent the combined effects of exposures to arsenic, cadmium and smoking as well as other factors." (ARCO)

    Response: The Agency considered the potential contribution of other agents to lung cancer risk in deriving the UCR arsenic. Exposure to these other agents was not felt to have a significant impact on the cancer risk attributable to arsenic and the agency considered the evidence that arsenic was a human lung carcinogen sufficient irregardless of exposure to other agents. The Agency acknowledges that the UCR is an upperbound risk estimate. See EPA (1984) Health Assessment Document for Inorganic Arsenic.

20. Comment: ARCO felt that in developing arsenic inhalation UCRs EPA significantly underestimated exposures to the compounds of concern by ignoring exposures during non-working hours. CAG did not take into consideration that the majority of smelter workers lived in nearby communities and were thus exposed to environmental levels for 16 hours

per day for 240 days and 24 hours per day for essentially the rest of the year. This failure to account for environmental exposure leads to an overestimation of the cancer potency. (ARCO)

Response: The available data indicate that environmental levels of cadmium and arsenic are considerably lower than in the work places studied. If CAG had used environmental exposures to calculate the UCRs, the cancer potency values would have been higher. Given the relatively low exposure in the environment as compared to the high levels in the workplace, the failure to include environmental, nonworkplace exposures in the calculation has had an insignificant effect on the UCR.

21. Comment: The respiratory health effects including noncarcinogenic effects of arsenic are not adequately addressed. (Public)

Response: The EA was written to evaluate the current health risks at Mill Creek. The adverse health effects reported during the operation of the smelter are not relevant to the purpose of the EA, and no current data are available on the respiratory health effects in Mill Creek.

Inappropriate Cancer Potency Factor with Respect to Ingestion Exposure to Cadmium and the RfD

22. Comment: The noncarcinogenic hazard index for cadmium exposure was inappropriately derived as it was based on an MCL rather than on an ADI or RfD. The MCL represents only a fraction of the ADI. (ARCO)

Response: While it is usually true that the MCL is only a fraction of the ADI, there are instances where the MCL may approximate the ADI. In the revised EA, the best available data has been utilized to develop an ADI for ingested cadmium, including consideration of other possible sources of cadmium.

Inappropriate Cancer Potency Factor with Respect to Inhalation Exposure to Cadmium and the RfD

23. Comment: "Overall, the EA risks from cadmium inhalation are overestimated because the occupational data that EPA used as the basis for the cancer potency estimate included inhalation exposure to arsenic as well as cadmium. Separate consideration of cadmium and arsenic inhalation in Mill Creek results in double counting the risks posed by these elements. The EA should have taken the effects of double counting into consideration in the assessment of cadmium and arsenic inhalation risks. (ARCO)

    Response: The UCRs have been developed with an awareness of possible concomitant exposures to other contaminants. Consequently, the UCRs have already been adjusted where adequate data exist to make such modifications. When possible, the UCRs have been based on studies that have one primary contaminant. Therefore, there is no double counting involved, and it is appropriate to consider the effects of arsenic and cadmium on lung cancer as additives while evaluating risks in Mill Creek. See EPA (1984) Health Assessment Document for Inorganic Arsenic.

24. Comment: The EA did not use the most up-to-data UCR for cadmium inhalation which would further reduce the risk estimate. (ARCO)

    Response: The best currently available UCR has been used in the EA. Currently EPA is recommending a UCR or 1.8×10^{-3} $(ug/m^3)^{-1}$ equivalent to 6.1 $(mg/kg/day)^{-1}$. This value was reported in the EA but was inadvertently not used in the risk calculations. A recent document prepared by the State of California Department of Health Services (DHS 1986) and based on new information provided by Thun (1986) suggests that the UCR for cadmium may be underestimated in the EPA CAG document. A careful consideration of this new evidence has been conducted before determining the proper UCR for use for cadmium in the EA.

25. Comment: ARCO felt that in developing the cadmium inhalation UCRs, EPA significantly underestimated exposures to the compounds of concern by ignoring exposures during non-working hours because CAG did not take into consideration that the majority of smelter workers lived in nearby communities and were thus exposed to environmental levels for 16 hours per day for 240 days and 24 hours per day for essentially the rest of the year. This failure to fully acknowledge the conditions of the underlying studies leads to an overestimate of the UCRs thus developed." (ARCO)

    Response: As stated in another response, the available data indicate that environmental levels of cadmium and arsenic are considerably lower than in the work places studied. If CAG had used environmental exposures alone to calculate the cadmium UCR, the cancer potency value would have been much higher. Given the relatively low exposures in the environment as compared to the high levels in the workplace, the failure to include environmental, nonworkplace exposures in the calculation has had an insignificant effect on the UCR.

26. Comment: The respiratory health effects of cadmium are not fully evaluated (Public)

    Response: The calculated inhalation exposures of cadmium were not thought to be high enough to cause acute respiratory health effects in and of themselves. In other to be more complete, the revised EA has fully considered such effects.

Inappropriate Approach To Determine Health Risk Associated with Exposure To Lead.

27. Comment: "The EPA states that it has chosen to depart from the standard exposure assessment procedures because of the extreme dependence of lead toxicity on its chemical form in the environment and individual variation in susceptibility to toxic effects. Thus, the EA concludes the body burdens are more accurate indications of toxicity than exposure. Since, however, the EA merely estimates body burden (i.e., blood lead) levels for Mill Creek based on environmental contaminant levels rather than actually measuring blood lead, it is unclear how this approach provides any increase in assessment validity over using the approach to evaluating health risk based on exposure. Specifically, the EA suggests that the values used in the multimedia scenario may underestimate exposure. However, use of one of the data sets indicates that the model may overestimate exposure. (ARCO)

    Response: Nowhere does the EA state that "it has chosen to depart from the standard exposure assessment procedures because of the extreme dependence of lead toxicity on its chemical form in the environment." Dosimetry is critical to risk assessment and the preferred estimate is the "effective" dose--the dose delivered to the target which induces the adverse effect. More often than not, however, it is necessary to estimate the "exposure" dose-- the dose to which an individual is exposed. In the case of lead, it is possible to get a step closer to the "effective" dose by estimating the dose which makes it into the blood stream--the blood lead level. Since the toxicity of lead has been correlated with blood lead levels and shows a much better relationship to these (the intake "doses"), the EA estimates the blood lead levels because the toxicity information is provided in terms of blood lead levels correlated to adverse effects, e.g., neurotoxicity.

The apparent variation of the regression coefficients among studies is discussed in the EA, and the reasons for selection of specific values are explained. It would not be scientifically justified to use a regression coefficient from any one of the studies without considering the others.

28. Comment: The intercept term used in the risk estimate for lead of 12.7 ug/dL may result in an overestimation of exposure and risk. (ARCO)

Response: The intercept term of 12.7 ug/dl was obtained from a draft EPA document (EPA 1983). More recent data (CDC, 1985, Preventing Lead Poisoning in Young Children) suggest that a value of around 6-7 ug/dl may be more appropriate. This updated value has been used in the revised EA.

29. Comment: The potential health risks associated with exposures to lead are not sufficiently addressed. (Public)

Response: Toxic effects of lead that are observed at low exposure levels are discussed in detail in the EA. Toxic effects that are only associated with very high exposure to lead or that are minor compared to effects occurring at the same or lower levels of exposure are discussed briefly or not at all in the EA, because these effects are either considered unlikely to be manifested in the Mill Creek area or if they did occur would have only a minor impact relative to more serious effects that would be present. A complete discussion of the health effects associated with exposure to lead is beyond the scope of the EA.

Carcinogens Not Addressed at the Mill Creek Site

30. Comment: "Medical data and research indicate that ten metals or compounds of these metals can be considered carcinogenic." These

metals also pose other health risks. However, several of these metals were not considered in the EA and the additional or synergistic effects of these metals were not considered. (Public)

Response: Arsenic and cadmium are considered carcinogenic by EPA, are present at elevated levels in the Mill Creek area, and were therefore considered as carcinogens in the EA. Lead and zinc are present at elevated levels in the Mill Creek area but are not considered to be carcinogenic by EPA and were therefore treated as noncarcinogens in the EA. (It should be noted that certain lead salts are considered carcinogenic but the metal itself is not considered to be a carcinogen.) Certain nickel salts and beryllium are considered carcinogenic by EPA but were not detected at elevated concentrations at Mill Creek and were not considered as they would not affect the excess lifetime cancer risk. Cobalt, iron, and titanium not present at elevated concentrations at Mill Creek, are not considered to be carcinogens by EPA, and therefore were not considered. The metals present at background levels will have no effect on the excess carcinogenic risk associated with exposure to carcinogens if they interact in an additive fashion. No information is available on potential antagonistic or synergistic interactions and therefore such interactions were not discussed in detail in the EA. However, this does not preclude EPA from considering the additive effects on individual organs.

Effect of Interactions Among the Metals Present at the Mill Creek Site

31. **Comment:** "...the EA failed to follow EPA guidelines (for the conduct of risk/endangerment assessments)...(in its) failure to develop a hazard index for multiple chemical exposure. (ARCO)

Response: The development of a hazard index for the multiple chemical exposure was considered during preparation of the EA but was not adopted for two reasons. Firstly, the proposed guidelines were not yet adopted as Agency policy when the EA was written, and, secondly, estimated additive toxicities were thought to be minor compared to the carcinogenic hazards of arsenic or cadmium, or to the acute toxicities of lead. The revised EA has developed a hazard index for multiple chemical exposure.

32. Comment: "In the EA, the Agency has suggested that the risks potentially posed to the Mill Creek residents by smelter-related contaminants may be intensified by the presence of multiple contaminants. There is no evidence suggesting the enhancement of adverse effects for the elements of concern due to the presence of the other contaminants. ...evidence exists that interactions between these elements (Cd, As) may be slight or antagonistic rather than additive." (ARCO)

    Response: This comment misrepresents the discussion of additive toxicity on page 90 of the 1986 EA, which simply points out that contaminants affecting the same organ should be viewed additively unless there is sufficient data to support another assumption.

33. Comment: The additive or synergistic interactions among chemicals are poorly understood at this time. (Public)

    Response: The interactions between the contaminants of concern at Mill Creek are poorly understood because there is so little experimental information. This situation is not likely to be resolved in the near future because of the inherent study design difficulties.

34. Comment: The cumulative hazard index for lead exposure and cadmium ingestion is inappropriate because the toxicological endpoints are different. (ARCO)

    Response: If two agents cause similar toxicities to an organ by unknown mechanisms, then it is Agency policy to consider the effects to be additive. (Guidelines for the Health Risk Assessment of Chemical Mixtures, EPA 1986; FRSI, No. 185, September 24, 1986; pp. 34014-34023).

Potential Beneficial Effects of Arsenic

35. **Comment:** "...the EA should have taken into account the possible beneficial aspects of arsenic ingestion at low doses." (ARCO)

    Response: The National Academy of Science report on the possible role of ingested arsenic as a dietary essential element was evaluated during the preparation of the EA. It was decided that the evidence for it being an essential element was not sufficient to incorporate into the EA, which was considering the adverse effects of the ingestion of much higher levels of arsenic. The Risk Assessment Forum has recently evaluated the same issue and has concluded that the data supporting arsenic as an essential nutritional element is insufficient.

3.1.3 EXPOSURE

Exposure to Background Concentrations of the Contaminants

1. **Comment:** "The EA fails to note that the ambient air concentrations of cadmium and arsenic, and hence the estimated inhalation risks are essentially at background, i.e., the levels which would exist in the absence of the smelter." (ARCO)

   Response: The September, 1987 Endangerment Assessment/Public Health Evaluation: Mill Creek, Montana Anaconda Smelter site presents airborne concentrations of trace elements in Mill Creek during 1984. For arsenic during 1984 observed average values (82 samples) exceeded background levels (.01 ug/m^3) for both arsenic and cadmium by a factor of 3 (0.039 ug/m^3). In addition, the Final Remedial Investigation

Report for Mill Creek, Montana reports preliminary data on particulate matter and heavy metal concentrations in close proximity to the Smelter collected from August 1986 to February 1987. These data show an average arsenic value of .024 ug/m^3 at station MCV. The August 1986 to February 1987 data set also reported maximum cadmium values of 0.043 and 0.031 ug/m^3 (at the Kortum Storage and MCV stations, respectively) which exceed the background cadmium concentration reported for western states (0.01 ug/m^3).

2. Comment: "... the EA failed to follow EPA guidelines [for the conduct of risk/endangerment assessment] ... [in its] ... neglect of background concentrations of contaminants." (ARCO)

   Response: The EA did not neglect background contaminant levels in its conduct of the risk/endangerment assessment (e.g., Tables 1 and 10 in the EA). As can be seen from these tables, and particularly from Table 1, concentrations of arsenic, cadmium, and lead are clearly above expected background levels. See Appendix B, Background Arsenic, Cadmium, and Lead Concentrations in Soil, Water, and Air for Mill Creek, Montana in the Final RI/FS for background levels. Levels of contamination found in Mill Creek exceed background levels.

3. Comment: The levels of lead in soil at Mill Creek are comparable to levels in urban soil. (ARCO)

   Response: Whether or not lead levels in soil at Mill Creek are equal to urban levels is irrelevant to whether or not there is a health risk. However, EPA is in the process of banning lead in gasoline, and lead has been removed from a number of other commercial products in order to lower exposures in urban areas.

Inappropriate Samples

4. Comment: "Evaluation of contaminant levels and exposures at Mill Creek suffers from numerous deficiencies which call into question the conclusions for the EA's analysis. ... For example, comparisons of data taken by TetraTech and Ecology and Environment (E&E) suggest that the sample for E&E house number 16 (the source of the maximum lead concentration used in the worst-case analyses) was taken in a garage, which is likely to have sources of lead contamination other than the smelter. Similarly, TetraTech's data indicate E&E house number 14 was uninhabited at the time of sampling. If this is the case, dust and dirt are likely to have accumulated in this home." (ARCO)

   Response: The choices of which data to use in estimating the possible exposure levels of residents of Mill Creek were made very carefully during the preparation of the EA. Data were selected, where possible, that had been subjected to the full rigors of the EPA data verification program. The ARCO comment about the inappropriate bias injected in the EA by use of an E&E soil sample value for house number 16 needs to be considered in light of other lead soil values in Mill Creek that were in the same range. Consequently, the reported value of house number 16 has supportive data that substantiate its appropriateness. Similarly, the comment that house number 14 (E&E) was uninhabited at the time of sampling does not deny that the levels of contaminants were high in the house, were higher after professional house cleaning, and were similar to those in other sampled houses. It is also likely that had the house been inhabited at the time of sampling that normal household activities (i.e., open windows, inhabitants tracking dirt into the house, etc.) would have increased the soil contamination levels detected in the house. The issues raised by ARCO do not constitute "deficiencies" in evaluation of contaminant levels or exposure in these instances which would "call into question the conclusions of the EA's analysis." In addition, much of the data used by EPA was collected by contractors employed by ARCO and was not identified as being of limited value.

5. Comment: "In a related issue, the EA was inconsistent in its use of the available data. For example, in calculating mean soil concentrations, the EA specifically omits the data collected by E&E, claiming that it might "bias the contamination values toward those in soils closer to the homes" which the EA suggests were more likely to have been disturbed by Mill Creek residents (EA, p. 26). Yet later, the EA uses one of these data points (specifically, the high lead value questioned above) for use in evaluating the worst-case exposure scenario." (ARCO)

   Response: The EA was not inconsistent in its use of the available data. The decision not to use samples collected where soil might have been disturbed by Mill Creek residents was made to most accurately determine possible contamination over time at the residence. The E&E data is within the same general range, but was not considered to be as representative as other data. Use of one of the excluded data points for another purpose is not inconsistent with this approach. As pointed out above in response to another comment, ample data exist to justify the use of the lead soil values as an indication of possible minimal and maximal likely case exposures.

6. Comment: People on-site are more likely to contact fine material in soils and, therefore, use of 3-inch soil samples may not be appropriate. Bossard and Associates collected samples of fine (less than 45 microns in diameter) from throughout the Mill Creek area, composited these samples into five samples for analysis, and reported that arithmetic mean concentrations of metals in this soil. These arithmetic mean concentrations were then compared with the geometric mean concentrations of metals in 3-inch soil samples. Based on this comparison, Bossard noted that concentrations of metals in finer soils are higher than in the 3-inch samples. (Public)

Response: Although it is possible that people are more likely to contact finer soil particles, it is not possible to conclude definitively that this is the case. In addition, it is inappropriate to compare arithmetic mean concentrations with geometric mean concentrations of metals. Finally, the maximum soil value used in the worst-case exposure assessment in the EA is the above the arithmetic mean concentration for soil arsenic and, therefore, use of the Bossard data would give a value within the range of risks already presented in the EA.

7. Comment: Sampling in the Mill Creek area appears to have been conducted randomly without a defined plan. (Public)

   Response: Over the years, there have been many sampling activities by ARCO and by EPA directed toward defining the environmental hazards to Mill Creek residents, or toward determining the effects of ARCO smelting activities on the surrounding area. The more recent samplings have been designed to specifically determine the levels of contaminants in media that would present exposure to residents. These efforts have been successful; they have consistently documented excessive levels of contaminants and have been found to be statistically representative. Further sampling efforts might be required to determine effectiveness of any remedial activities.

Assumptions Inconsistent with EPA Guidance

General Response: Assumptions used in the revised EA have been changed to be consistent with the finalized PHE manual (EPA 1986) or if the assumptions are not followed, an explanation of the reason for the deviation is presented. EPA may depart from the guidance when it has adequate reasons to do so.

8. Comment: "... the EA failed to follow EPA guidelines [for the conduct of risk/endangerment assessment] ... [in its use of 76.2 year lifespan vs. 70-yr recommended value] ...." (ARCO)

   Response: The EA followed the best available EPA guidance in the use of a 76.2-year lifespan vs. the 70-year lifespan recommended in the draft public health evaluation document referenced by ARCO. The recommendation to use 76.2 years came directly from CAG, and is a more representative number for the present day. However, to be consistent with current EPA guidelines for site-specific risk assessments presented in the finalized PHE manual (EPA 1986), a 70-year lifetime was used to calculate risks in the revised EA.

9. Comment: "... the EA failed to follow EPA guidelines [for the conduct of risk/endangerment assessment] ... [in its use of body weights for children 2-6 of 13 to 22 instead of the 10 to 25 kg recommended] ...." (ARCO)

   Response: As stated in the previous response, the use of body weights for children 2 to 5 of 13 to 22 kg, instead of 10 to 25 kg recommended in the public health evaluation guidelines, was based upon the specific recommendation of CAG at the time the EA was prepared. However, as noted above, values reported in the finalized PHE manual were used in the revised EA.

10. Comment: "... it should be noted that the absorption factor for arsenic inhalation used by EPA in its calculations for Mill Creek (0.40) differs from that used by the EPA's CAG (0.30)." (ARCO)

    Response: As stated above in response to several comments about the approach or assumptions used in evaluation the exposures of risks in the EA, the percent retention of 0.40 for inhaled arsenic was suggested by CAG. Given the particulate sizes and the physiodynamics of human respiration, such a factor appears to be correct. However, as the figure of 30 percent absorption is presented in the EPA (1984) Health Assessment Document for Inorganic Arsenic, this value was used in the revised EA.

Bioavailability of Arsenic

11. Comment: "... the EA should have taken into consideration the reduced bioavailability of soil-bound arsenic." (ARCO)

    Response: The values used in the EA to estimate the arsenic bioavailability in ingested soil are based upon the best estimates in the published literature, and follow normal EPA guidelines.

12. Comment: The assumption that between 88 and 98 percent of soil-bound arsenic is absorbed following ingestion is inappropriate and leads to an overestimation of risks. (ARCO)

    Response: As stated above, the listed values, developed in the EPA (1984) Health Assessment Document for Inorganic Arsenic, were the best available in the published, peer-reviewed literature and were deemed to be scientifically appropriate for the EA.

13. Comment: Bench tests of arsenic extractability were not considered in the report (ARCO).

    Response: The preliminary data presented by ARCO about the bioavailability of soil-bound arsenic are not of use for the following reasons: (1) the full conditions of the tests are not known; (2) the experiments have not been published in the peer-reviewed scientific literature; and (3) there is no evidence presented about the biological relevance of the rudimentary tests conducted.

    There is a discrepancy between the description provided in the text and the actual experimental data reported in Tables 1 and 2 for the simulated stomach digestions. The introduction refers to SOP-026 (TetraTech 1984) as a procedure for digesting soil samples in HCl (pH 0.8 and pH 2) at 37° in an attempt to mimic stomach conditions. Tables 1 and 2 report on the leaching of metals from soil samples upon digestion at 37° with mixtures of HNO_3/H_2O_2 and $HNO_3/HClO_4$ at pH 0.8 and pH 2. A significant difference between the two procedures is the oxidizing power of the latter combinations relative to HCl solutions.

A complete, step-by-step description of the digestion procedure was not available at this time. This would be critical in establishing how closely the digestion procedures approach the absorption process under physiological conditions. Absorption through a membrane represents a non-equilibrium situation because absorbed material is rapidly removed by the systematic circulation. The digestion procedure used by TetraTech is suggestive of an equilibrium situation where the amount measured as leachate represents a partition value between the liquid and solid phases. Thus, the appearance of metal in the liquid phase indicates that the material is extractable from the soil matrix under the conditions used. The question of how to apply this number to predict bioavailability is more difficult to answer. At pH 2, only 30 percent of arsenic is extracted into the liquid phase in the digestion study. If this information is pertinent to absorption from the gut, one can presume that under physiological absorption conditions only 30 percent of the arsenic would be immediately available for absorption. However, as the metal is removed from the liquid phase by absorption through the stomach or intestinal walls, more metal is released from the solid matrix in order to maintain equilibrium. The final absorption number is likely to be higher than that initially determined by the digestion procedure.

Calculation of Cadmium Exposure

14. **Comment:** "... the EA made an order of magnitude error in estimating the worst-case cadmium ingestion level which would result in reducing the risk estimate to well below that corresponding to the cadmium drinking water standard." (ARCO)

Response: This error has been corrected and the revised EA will reflects the new value.

Limited Use of the Urinary Arsenic Measurements

15. **Comment:** "To date, EPA has mainly justified its concern for public health and excess skin cancer risk on the urine arsenic results for children in Mill Creek. Yet, the EA makes no use of the urine arsenic results in calculating its risk estimate." (ARCO)

Response: The EA did use the urine arsenic results to verify the reasonableness of the calculated arsenic exposure in Mill Creek (p. 87), but this point has been further developed in the revised EA. Under steady state conditions, the concentration of arsenic in urine corresponds to 60 percent (approximately) of the absorbed dose (Valentine et al. 1979, Buchet et al. 1981, Charbouueau et al. 1981).

From Table 14 (Mill Creek Endangerment Assessment):

Arsenic levels in urine (ug/liter): range 12-118 (Mill Creek)
range 4-150 (Anaconda West)
range 4-41 (Anaconda East)

Subtract 25 ug As/liter as a reasonable value for dietary contribution (IARC Monograph No. 23, pp. 72-73):

	ug As/liter urine [x 1/0.6]	Absorbed As (ug)
Mill Creek	93	155
Anaconda West	125	208
Anaconda East	16	27

Corresponding soil concentrations assuming ingestion of 100 mg:

	As (ppm) in Soil
Mill Creek	1,550
Anaconda West	2,080
Anaconda East	270

The calculations assume 100 percent absorption of arsenic in soil; lower absorption would lead to higher soil concentrations of arsenic in order to account for the urinary concentrations measured. This leads to the conclusion that the bioavailability of arsenic in soil should be considered high.

From Mill Creek Endangerment Assessment:

- children ingest 100 mg/day of soil
- arsenic concentration 2,180 ppm (highest QA/QC)
  541 ppm (geometric mean)
- absorption fraction 0.88 to 0.98
- daily ingestion: 54ug/g soil x 0.1 g soil x 0.80(0.98) = 43 (53) ug

References

Valentine, J.; Kaug, H.K.; and Spivey, G. 1979. Arsenic levels in human blood, urine, and hair in response to exposure via drinking water. Environ. Res. 20:24-32.

Buchey, V.P.; Lauwery, S.R.; and Roels, H. 1981. Urinary excretion of inorganic arsenic and its metabolites after repeated ingestion of sodium metaarsenite by volunteers. Int. Arch. Occup. Environ. Health, 48:111-118.

Charbouneau, S.M.; Spencer, K; Bryce, F.; and Sandi, E. 1979. Arsenic excretion of monkeys dosed with arsenic-containing fish or with inorganic arsenic. Bull. Environ. Contam. Toxicol. 20:470-477.

16. Comment: "Elevated urinary arsenic levels are not an adverse health effect or indicator of such effects, but are merely an indicator of arsenic exposure." (ARCO)

Response: Elevated urinary arsenic is an indicator of higher than normal arsenic exposure. Given the known human toxicities or arsenic, it is prudent to consider whether individuals showing evidence of increased exposures to arsenic (as indicated by elevated urinary levels) are likely to suffer adverse effects.

17. Comment: Urinary arsenic levels in Mill Creek children are high. They may not be substantially above levels in other locations, but the Mill Creek environment may be more complex than other areas reporting high urinary arsenic levels. (Public)

Response: The observed urinary levels of arsenic in children in Mill Creek are of concern in and of themselves because of the carcinogenicity of arsenic. Additionally, the urinary arsenic levels may indicate that children of Mill Creek might be susceptible to other, as yet poorly understood, diseases. The presence of other contaminants in the Mill Creek environment raises the possibility that there could be additive or synergistic effects of the contaminants in causing toxicities.

Historical Sampling Data

18. Comment: Air quality sampling data collected prior to cessation of smelter activities should have been reviewed and included. In addition, data collected during Mill Creek construction should have been included. (Public)

Response: The air quality in the Mill Creek area was likely to have been significantly different from current conditions when the smelter was in operation. As the purpose of the EA was to assess risks associated with current and future exposure under the no action alternative, the use of air data from a former time period would be inappropriate in the EA. The data collected while the smelter was in operation may be used in the future.

Form of Arsenic in the Environment

19. **Comment:** Is the arsenic in the soil trioxide or pentoxide? (Public)

Response: The majority of the arsenic in the soil and ground water of Mill Creek appears to be in the pentoxide form. This has little relevance to health issues, because there is evidence that the pentoxide form is converted to the trioxide form in the body prior to methylation (Marafante et al. 1985), and the appearance of arsenic in the urine is sufficient evidence of bioavailability.

Incidents of Skin Cancer

20. **Comment:** The high incidence of skin cancer that would be predicted by EPA's UCR has not been observed in U.S. populations with elevated arsenic levels in their drinking water. See Environmental Health Associates, Inc. (1986) An Epidemiologic Investigation of Skin Cancer in Deer Lodge and Silver Bow Counties, Montana 1980-1986. (ARCO)

Response: See response to Comment #20 in Section 4.0 Health Assessment.

21. **Comment:** There is no evidence in Mill Creek or neighboring communities that any arsenic induced skin cancers have actually occurred. (ARCO)

Response: See response to Comment #20 above.

3.2 LEGAL ISSUES

Comments on legal issues received by EPA have been grouped into three categories. They include comments on the EA, comments concerning ARARs, and comments on the Mill Creek draft RI/FS.

3.2.1 ENDANGERMENT ASSESSMENT

1. Comment: The EA fails to consider a number of key scientific studies and recommendations. (ARCO)

   Response: All studies and recommendations available to EPA have been considered in the revised EA. They have been addressed in a manner consistent with the Risk Assessment Forum's evaluation of arsenic. Apparent conflicts between EPA's programs regarding the carcinogenicity of arsenic have been resolved.

2. Comment: EPA failed to follow EPA guidance for conducting endangerment assessments and public health evaluations. (ARCO)

   Response: EPA has made necessary changes to follow the guidance or has provided explanations of where the guidance was not followed and why. EPA may depart from the guidance when it has adequate reason to do so. The guidance is, after all, guidance.

3. Comment: EPA failed to compare media concentrations to requirements, standards, and criteria. (ARCO)

   Response: The draft RI/FS reports and EPA's ARARs analysis Supplement to the RI/FS contain such comparisons. They have also been included in the revised EA.

4. Comment: EPA's Offic of Drinking Water, in the Nov. 13, 1985, proposed RMCL for arsenic and the draft Health Advisory for Arsenic

Other Types of Exposures

22. **Comment:** Indoor sampling studies were inadequate. Indoor exposure studies should be thorough because people spend much time indoors. (Public)

    Response: EPA agrees that indoor sampling was not extensive. However, considering the magnitude of the problem at the Mill Creek area, and that house dust levels may likely correlate with outdoor soil levels it did not seem necessary to determine levels of indoor contamination before proceeding with the EA.

23. **Comment:** Exposure to house dust via ingestion or inhalation was not directly considered. (ARCO)

    Response: This exposure to household dust was considered implicitly in the draft EA and discussed in more detail in the revised EA.

24. **Comment:** EPA notes that ingestion of garden vegetables grown in contaminated soil may contribute to exposure, but fails to present information documenting this route as potentially significant. (ARCO)

    Response: Detail on the potential for exposure to soil metals via ingestion of contaminated vegetables is presented in the revised EA.

25. **Comment:** The report fails to address the exposure associated with contaminant transport during surface water run-off. (Public)

    Response: Exposure to contaminants mobilized during surface water run-off was not considered in the EA because it was not considered likely to be a problem under current use conditions. However, this assumption has been explained in more detail in the revised EA.

and the Administrator of EPA in correspondence pertaining to Fallon, Nevada, expressed doubts about the validity of the Tsenq study and other studies relied on for the CAG potency factor for arsenic ingestion. (ARCO)

Response: EPA acknowledges these positions taken by the Agency. However, the Risk Assessment Forum has addressed and resolved these concerns in developing the revised CAG potency factor for arsenic ingestion. The above-referenced documents have, therefore, been superceded by a new agency position based upon new information.

5. Comment: EPA has taken a totally different position with respect to arsenic regulated under the national drinking water program and arsenic in contaminated soil and drinking water addressed by EPA under CERCLA at Mill Creek. This is inconsistent. (ARCO)

   Response: The comparison of total ingested arsenic dose and risk in Mill Creek to the MCL and the proposed RMCL (MCLG) at Mill Creek is inappropriate for the reasons discussed below.

   a. Comparison of soil contamination to the MCL for arsenic is inappropriate. EPA's "Superfund Public Health Evaluation Manual" (page 58, ICF, October 1986) states that "ARARs should correspond to the medium (e.g., air, water) for which they were developed and must be applicable or relevant and appropriate for site conditions." MCLs are clearly not applicable to soil contamination. MCLs are required by law to reflect the technological and economic feasibility of removing the contaminant from the water. (See section 1412(b)(4) of SDWA and page 58 of Superfund Public Health Evaluation Manual.) Such considerations are clearly not "relevant and appropriate to soil contamination at Mill Creek. Technical and cost considerations of drinking water treatment are simply not relevant to soil contamination. In addition, the technical and economic feasibility of soil removal are not a significant issue at Mill Creek.

      In addition, SARA and the NCP allow identification of cleanup goals that attain or exceed ARARs (section 121(d) of SARA, 40 C.F.R. section 300.68(i) and 50 Fed. Reg. 47919, Nov. 20, 1985).

b. As noted earlier, a proposed RMCL (MCLG) for arsenic was published on November 13, 1985. This proposal was followed by a January 9, 1986, Science Advisory Board recommendation and letter from the EPA Administrator regarding Fallon, Nevada. These documents all raised issues concerning the supporting studies for the old CAG potency factor for arsenic. These documents and proposals were all pre-decisional and do not represent final EPA positions on arsenic carcinogenicity. The draft Risk Assessment Forum report supersedes these statements. In addition, the RMCL for drinking water, like the MCL, is not relevant and appropriate for soils.

6. Comment: EPA has not enforced MCL violations at communities around the U.S. where variances and exemptions have been granted. (ARCO)

Response: Variances granted under section 1415 of SDWA are granted only where there is poor raw source water which cannot meet an MCL after application of the best treatment technology, treatment techniques, or other means which EPA finds are available, taking cost into consideration. Exemptions granted under section 1416 of SDWA are granted only where, due to compelling factors (including economic factors), a water system is unable to comply with the MCL.

Variances and exemptions can only be granted upon a finding of no unreasonable risk to health, upon establishment of a compliance schedule to come into compliance with the MCL, and mitigation measures such a medical monitoring, alternative water supplies, etc., to protect health during the limited duration of the variances and exemptions. See "Guidance for the Issuance of Variances and Exemptions" (May 1979, Office of Drinking Water, WSG 64).

In addition, the unique factors pertaining to EPA and State SDWA enforcement discretion at individual community water supplies are not related to or relevant to CERCLA or Mill Creek, Montana, problems.

3.2.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)

Role of ARAR'S in General

1. Comment: The overriding goal of SARA is protection of health and the environment (section 121(d)(1) of SARA). The "circumstances presented by the release or threatened release" are the foundations of all remedial activities at a site, regardless of which Federal or State requirements are deemed to be the proper ARARs. (ARCO)

   Response: ARCO is correct in indicating that section 121(d)(1) of SARA is an overriding goal. Section 121(d)(1) may support more stringent clean-up goals than ARARs. Subparagraph 121(d)(2)(A) of SARA provides that a remedial action selected by EPA must at least attain ARARs. Paragraph 121(d)(4) sets forth limited expections to that requirement.

2. Comment: EPA must decide whether to permanently relocate the residents of Mill Creek, Montana, before choosing ARARs for Mill Creek. (ARCO)

   Response: Permanent relocation is only one remedial alternative considered by EPA. EPA also evaluated other alternatives, including alternatives for various degrees of cleanup of the community of Mill Creek. The National Contingency Plan ("NCP"), at 40 C.F.R. subsections 300.68(e), (f), (g), (h), and (i) requires that all remedial alternatives addressed in an RI/FS be evaluated for compliance with ARARs. This requires preliminary identification of ARARs for purposes of the RI/FS analysis. ARARs associated with permanent relocation have been determined in the ROD. ARARs associated with permanent remedies will be finally determined in future operable units and RODs.

3. Comment: SARA states that only promulgated requirements of general applicability may qualify as State ARARs. (ARCO)

   Response: EPA agrees with this comment.

4. Comment: EPA must analyze the purpose for which a requirement was designed in evaluating a potential ARAR. (ARCO)

   Response: EPA must identify "applicable" requirements as ARARs if they otherwise qualify. EPA agrees that it must look to the purpose of "relevant and appropriate" requirements when evaluating them.

Surface Water Requirements

5. Comment: The Montana surface water quality numerical standards specified in Table 3.2-1 of the draft FS are not specified in the State water quality standards regulations. The Federal water quality criteria are only used as guidelines by the State in establishing permit effluent limitations. (ARCO)

   Response: EPA is evaluating whether State regulations at subsection 16.20.618(3) ARM merely establish Federal water quality criteria as guidelines or adopt them as instream criteria as a matter of State law. As a practical matter, it appears that the State interprets Federal water quality criteria to be guidelines. See ARARs analysis attached to August 27, 1987 letter from John Wardell (EPA) to Jack Davis (ARCO) (hereinafter "EPA's ARARs analysis"); 50 Fed. Reg. 47919, Nov. 20, 1985 and 52 Fed. Reg. 8706, March 19, 1987.

6. Comment: The State-adopted Federal water quality criteria are only guidelines under State law and, therefore, are not ARARs, and maximum contaminant levels ("MCLs") are legally applicable State ARARs. (ARCO)

Response: EPA clarifies that MCLs apply under State law only after conventional treatment of the water. Also, see response to Comment #5 above.

7. Comment: If "legally applicable" standards exist, EPA cannot identify more stringent "relevant and appropriate" requirements as ARARs. (ARCO)

   Response: EPA disagrees with this comment. Remedial actions must attain all applicable or relevant and appropriate requirements unless a waiver under section 121(d)(4) of SARA is approved by EPA.

8. Comment: The State nondegradation requirements cannot be an ARAR for Mill Creek because they go well beyond a concern for public health and the environment. (ARCO)

   Response: EPA believes that the State nondegradation requirements are not an ARAR for Mill Creek because the only potential sources of discharge into the stream of Mill Creek are non-point sources, and these will be adequately addressed by best management practices. See EPA's ARARs analysis.

Ground Water Requirements

9. Comment: ARCO summarized and characterized Montana's ground water requirements. MCLs are the State ARARs. (ARCO)

   Response: EPA concurs with ARCO's analysis, as discussed elsewhere in EPA's responses to ARCO comments and in EPA's ARARs analysis. However, EPA has identified a more stringent Federal health based performance goal for drinking water at the tap. EPA also addressed nondegradation requirements for ground water in EPA's ARARs analysis.

Hard Rock Soil Guidelines

10. Comment: ARCO analyzed the State reclamation program's "Hard Rock Soil Guidelines" and concluded that they are not ARARs. (ARCO)

    Response: EPA concurs with ARCO's reasoning and conclusion. However, EPA will consider the guidelines as another "Criteria, Advisory, Guidance, or Standard to be Considered."

Perennial Streams and Floodplains

11. Comment: No Federal counterpart exists to the Montana floodplain and floodway regulatory program (MCA Section 76-5-101, et seq.) in any statute listed in clause 121(d)(2)(A)(i) of SARA. Therefore, no comparison can be made concerning stringency. The Montana perennial stream protection program (MCA Section 75-7-101, *et seq*.) is not more stringent than the analogous Federal dredge and fill program created by Section 404 of the Clean Water Act. (ARCO)

    Response: The federal Floodplain Management Executive Order (E.O. 11988) applies to CERCLA activities and is analogous to the State floodplain and floodway management program. This Executive Order is also incorporated into the Section 404(b)(1) Guidelines (40 CFR Part 230). However, the State requirements are not more stringent than the Federal. EPA agrees with ARCO that the State perennial stream protection program is not more stringent than the Section 404 program. EPA also does not believe the State program is more stringent than the Protection of Wetlands Executive Order (EO 11990) which also applies to CERCLA activities. See EPA's ARARs analysis.

Water Wells and Use

12. Comment: ARCO analyzed the State requirements and concluded that they are not properly ARARs. (ARCO)

Response: EPA concurs with ARCO's analysis and conclusions. However, EPA did identify water well construction standards at ARM Section 36.21.601, et seq. as State ARARs. See EPA's ARARs analysis.

Solid and Hazardous Waste

13. Comment: The State's hazardous waste statutory and regulatory requirements for hazardous waste are identical to Federal RCRA Subtitle C requirements. (ARCO)

    Response: EPA concurs with the analysis and conclusion. EPA has responded to ARCO's criticism of Federal RCRA Subtitle C closure requirements elsewhere. EPA has evaluated the State's solid waste management requirements separately and concluded that they are not more stringent than Federal requirements that are "applicable or relevant and appropriate" for Mill Creek.

Air Emissions

14. Comment: The State ambient air quality standard for Total Suspended Particulate (TSP) at ARM Section 16.8.821 is more stringent than the Federal Primary National Ambient Air Quality Standard (NAAQS) for TSP at 50 CFR Section 50.6 and less stringent than the Federal Secondary NAAQS for TSP at 40 CFR Section 50.7. The Secondary NAAQS cannot be an ARAR because it is based on welfare rather than public health considerations. (ARCO)

    Response: On July 1, 1987, the former Federal Primary and Secondary **NAAQS** were superseded by the new PM_{10} Primary and Secondary NAAQS for particulate matter less than or equal to 10 micrometers in diameter (See 52 Fed. Reg. 24634, July 1, 1987). The new PM_{10} Primary and Secondary standards are identical. ARCO's comments on the pre-PM_{10} standards are therefore, no longer relevant. The state total suspended particulate standard at ARM Section 16.8.821 is a part of the Federally approved and enforceable State Implementation Plan (SIP) and is, therefore, a potential Federal ARAR. There is insufficient data at this time to evaluate whether the PM_{10} NAAQS or the State standard is more stringent so EPA has identified both as Federal ARARs for Mill Creek. See EPA's ARARs analysis.

Underground Storage Tanks

15. Comment: State and Federal regulations for implementing the Federal and State Underground Storage Tank programs have not been promulgated. It is, therefore, impossible to comment on whether State requirements are properly ARARs. (ARCO)

    Response: The only State and EPA regulations for underground storage tanks promulgated by EPA to date pertain to notification requirements and interim prohibitions for new tanks. These do not fit the circumstances at Mill Creek. Regulations for tank closure and corrective action have not yet been promulgated. There are, therefore, presently no State or Federal ARARs for Mill Creek for underground storage tanks.

Septic Tank Pumpers and Disposal of Septage

16. Comment: ARM sections 16.14.811 and 16.14.812 appear to be State requirements in addition to Federal ARARs, but it is impossible to say if they are ARARs until it is determined whether septage will be encountered during remedial action at Mill Creek. (ARCO)

    Response: EPA agrees with ARCO's reasoning and conclusion that ARM sections 16.14.811 and 16.14.812 are State requirements in addition to Federal ARARs. EPA will consider them to be State ARARs if septage is encountered under appropriate circumstances during the course of remedial action.

Junk Vehicles

17. Comment: The shielding provisions of ARM section 16.14.201(1) are State requirements "in addition to" Federal ARARs. (ARCO)

    Response: EPA concurs with ARCO's reasoning and concludes that the shielding provisions will be considered State ARARs if junk vehicles must be collected and disposed of in conjunction with remedial actions. EPA also considers the disposal of junk vehicles in a "motor vehicle graveyard" as defined at MCA subsection 75-10-522 to be a State ARAR.

ARARs in Mill Creek Draft RI/FS

18. Comment 2.B: Cleanup standards for arsenic and heavy metals in soils do not exist. (ARCO)

    Response: ARCO is correct that there are no nationally applicable, uniform numerical ambient cleanup standards for arsenic and heavy metals in soil. However, through the use of a risk-based approach to identifying "relevant and appropriate" RCRA Subtitle C closure requirements through the exercise of best professional judgment (50 Fed. Reg. 47919, Nov. 20, 1985), site-specific soil cleanup goals may be established. This is a pure risk-based approach within the general framework of RCRA Subtitle C closure requirements. See also 52 Fed. Reg. 8706, March 19, 1987 and EPA's ARARs analysis.

19. **Comment** 2.B: "Relevant and appropriate" requirements do not directly fit the case at hand. (ARCO)

    Response: EPA's flexible approach to tailoring RCRA Subtitle C closure "relevant and appropriate" requirements for soil contamination in Mill Creek directly fit the case at hand. See EPA's ARARs analysis.

20. Comment 2.B.1: Mining wastes are not currently regulated under Subtitle D of RCRA. (ARCO)

Response: Mining wastes are currently regulated under Subtitle D. See section 1004(27) of RCRA and definitions of "solid waste" at 40 C.F.R. subsection 257.2. See response to Comment #3 in Section 3.2.3 General Comments Concerning Mill Creek, Montana, Draft Feasibility Study, Supplemental Legal Concerns.

21. Comment 2.B.2: Section 264.228 is not relevant because it addresses surface impoundments, applies to higher concentrations (of arsenic, etc.?), and does not provide for removal and replacement of soil. (ARCO)

Response: Using a flexible, risk-based approach, EPA may use best professional judgment to select "relevant and appropriate" RCRA Subtitle C closure requirements. 40 C.F.R. sections 264.28 and 264.310 allow options of complete removal of hazardous waste or partial removal with capping of the remaining hazardous wastes. An 18-inch cap over remaining contaminated soil in Mill Creek is consistent with this approach. See response to Comment #9 in Section 3.2.3 General Comments Concerning Mill Creek, Montana, Draft Feasibility Study, Supplemental Legal Concerns.

22. Comment 2.B.2: No justification for 18-inch cap is given in addendum. (ARCO)

Response: Such justification is detailed on pages 24 and 25 of October 31, 1986, EPA comments on the draft FS report and summarized on pages 4, 9, and 10 of the RI/FS supplement.

23. Comment 2.B.2: Selective sodding of highly contaminated areas is consistent with 40 CFR section 264.228. (ARCO)

Response: Selective sodding is not as technically reliable and effective over the long term in preserving an adequate cap over remaining contamination as an 18-inch soil cover because of phytotoxicity problems with "thinner" caps and a high risk of incidental disturbance of thinner caps by normal human activities (gardening, etc.).

24. Comment 2.B.2: EPA should follow the risk-based approach it followed at the Crystal Chemical site at Mill Creek. The Crystal Chemical site was in a highly populated area, and Mill Creek is not. (ARCO)

Response: EPA has followed the risk-based approach as described in the Crystal Chemical discussion in the NCP preamble (50 Fed. Reg. 47923, Nov. 20, 1985). The Crystal Chemical site is located in an industrial park. The community of Mill Creek is a residential area. The exposure of residents to contaminated soil is a more immediate problem in Mill Creek than at the Crystal Chemical site. Note: EPA is no longer relying on the Crystal Chemical preamble discussion other than as a general illustration of how to identify "relevant and appropriate" RCRA closure requirements for contaminated soils because a Record of Decision (ROD) has not yet been signed for the Crystal Chemical site.

25. Comment 2.B.2: 40 C.F.R. section 264.310 applies only to hazardous waste sites. EPA should not apply all of section 264.310 to Mill Creek. (ARCO)

Response: 40 C.F.R. section 264.310 requirements may be "relevant and appropriate" at Mill Creek. See EPA's ARARs Analysis for a full explanation. EPA did not apply all of section 264.310 to Mill Creek, only the "relevant and appropriate" requirements. EPA agrees that long-term covering is consistent with the "relevant and appropriate requirements" of section 264.310 but disagrees with ARCO over the extent of the required cover.

26. Comment 2.B.3: The ARAR for drinking water in Mill Creek should be the MCLG of arsenic of 50 ug/l. (ARCO)

Response: The MCLG (RMCL) for arsenic is only proposed at this time. EPA failed to note this in the RI/FS supplement. As noted in EPA's ARARs analysis, EPA has deferred evaluation of water quality criteria as ARARs for drinking water at the tap pending development of EPA policy for implementing subparagraph 121(d)(2)(B) of SARA and has, instead, identified a health-based performance goal for arsenic in drinking water.

27. Comment 2.B.3: EPA should consider the latest information available in establishing a cleanup level based on water quality criteria. (ARCO)

Response: See response to Comment #9 above and EPA's ARARs analysis. Also, see response to Comments #11, #12, and #13 in Section 3.2.3 General Comments Concerning Mill Creek, Montana, Draft Feasibility Study, Supplemental Legal Concerns.

28. Comment 2.B.4: ARCO agrees with EPA that 10^{-6} is not an ARAR. Achieving a cleanup primary target of 10^{-6} for arsenic and skin cancer doesn't take into account the mortality rate. (ARCO)

Response: Although 10^{-6} is not an ARAR, it is a valid means of **implementing** section 121(d)(1) of SARA. A risk level of 10^{-6} is identifies as a primary target for cleanup in EPA's Public Health Evaluation Manual (October, 1986) on page 125. See response to Comment #1 in EPA's response in Section 3.2.3 General Comments Concerning the Mill Creek, Montana, Draft Feasibility Study.

Supplemental Legal Concerns. See response to ARCO's comments on Endangerment Assessment for a discussion of morbidity versus mortality.

29. Comment 2.B.4: Background levels of arsenic are cleanup goals and not ARARs. RCRA contains no basis to require cleanup to background levels. (ARCO)

    Response: EPA preliminarily identified background as the cleanup goal for the purposes of the RI/FS analysis because of the elevated risks associated with even background levels of arsenic in soil. These risks were calculated using a more recent EPA position on arsenic toxicity than was available when the Crystal Chemical site was discussed in the NCP preamble. This cleanup level was incorporated into the RCRA "storage" closure option as a means of defining removal of all contaminated soils." See response to Comment #9 in Section 3.2.3 General Comments Concerning Mill Creek, Montana, Draft Feasibility Study" (see also 52 Fed. Reg. 8706, March 19, 1987). This is consistent with the flexible approach to RCRA closure for contaminated soils illustrated in the NCP preamble discussion of the Crystal Chemical site. In addition, the NCP preamble discussion of Crystal Chemical indicated that "storage" closure could have been implemented by cleanup to background, even assuming a 100 ppm. arsenic action level was appropriate (50 Fed. Reg. 47923, Nov. 20, 1985).

30. Comment 2.B.5: Does EPA intend to relocate people only to locations where no arsenic can be detected in drinking water? (ARCO)

    Response: EPA will take steps to ensure that the health of any residents relocated pursuant to CERCLA authority is adequately protected.

31. Comment 2.B.7: The State's nondegradation policy is more stringent than EPA's antidegradation policy because it is more specific. (ARCO)

Response: The Federal regulations at 40 CFR section 131.12 addressing antidegradation are not a Federal ARAR because they are not directly enforceable nor are they expressly cited in section 121(d)(2) of SARA. Therefore, the State nondegradation policy is not properly analyzed as being more stringent than the Federal requirements for purposes of CERCLA. It is more properly analyzed as being "in addition to" Federal requirements. In any event, EPA has concluded the State's non-degradation policy will not be an issue at Mill Creek because any non-point sources would be adequately addressed by best management practices. See EPA's ARARs analysis and response to comment #32 immediately below.

32. Comment 2.B.7: ARM section 16.20.701(b)(7) specifies that where pollution occurs from non-point sources, surface water quality standards violations from non-point sources are not considered degradation where reasonable land, soil, and water management practices have been applied. Were such measures to be applied in Mill Creek, the State non-degradation policy would not apply. (ARCO)

Response: EPA agrees that where reasonable land, soil, and water management practices are applied, the State nondegradation provisions do not apply.

33. Comment 2.B.7: Even if nondegradation were considered "relevant and appropriate," only activities after December 17, 1982, which would cause exceedances of water quality standards would have to be managed under the non-degradation policy. (ARCO)

Response: EPA does not agree. The purpose of the State's nondegradation requirements is to protect water that is currently of higher quality than required by State standards.

34. Comment 2.B.7: The State's ground water standards are less stringent than EPA's modified water quality criteria for arsenic. Therefore, section 121 of SARA suggests that State standards do not need to be considered further. (ARCO)

Response: EPA has deferred the question of whether water quality criteria are drinking water ARARs as noted earlier. EPA has instead preliminarily identified a health-based performance goal for purposes of the RI/FS analysis that is more stringent than the MCL for arsenic. See EPA's ARARs analysis.

35. Comment 2.B.8: MCA section 28-4-336(7) is not applicable to Mill Creek because the Anaconda Smelter and Mill Creek are not mining activities. (ARCO)

Response: EPA agrees with this comment.

36. Comment 2.B.8: The requirements of MCA section 82-4-336(7) are not "relevant and appropriate" because the purposes of the Montana Mined Land Reclamation law is aesthetic and economic rather than protection of health or the environment. (ARCO)

Response: EPA does not agree with ARCO's reasoning or its conclusion. The Montana Metal Mine Reclamation Act (MCA section 82-4-301. et seq.) clearly addresses environmental values, although not in the same manner or degree as CERCLA. See MCA §§ 82-4-335(c), 82-4-335(h), 82-4-335(j), 82-4-336(4), 82-4-336(5), 82-4-336(6), and 82-4-336(9). The requirements of MCA section 82-4-336(7) are "relevant and appropriate". However, EPA does believe that MCA section 82-4-336(7) is not more stringent than Federal requirements. The language of this provision is a general narrative standard that cannot be easily compared to more specific Federal and State ARARs. EPA concludes that this general narrative standard will be satisfied if the more specific Federal ARARs are complied with.

37. Comment 2.B.8: The State Hard Rock Soil Guidelines are not ARARs because they were not promulgated. (ARCO)

Response: EPA agrees with this comment. However, EPA will consider these requirements as guidance in its evaluation.

38. Comment 2.B.9: State hazardous and solid waste laws are not more stringent than EPA's. If underground storage tanks, septic tanks, or junk vehicles are encountered during remedial action at Mill Creek, the relevant State laws are "applicable or relevant and appropriate". (ARCO)

Response: EPA concurs with this response, except that the State's current underground storage tank requirements are not pertinent to Mill Creek.

39. Comment 2.B.10: The State's 24-hour standard for total suspended particulate ("TSP") matter is more stringent than the primary National Ambient Air Quality Standard (NAAQS). (ARCO)

Response: See response to comment #14 in Section 3.2.2 Applicable or Relevant and Appropriate Requirements (ARARs). Also see EPA's ARARs analysis.

40. Comment 2.B.10: Remedial activities in Mill Creek would not be "stationary sources," so the State TSP standard will not apply. (ARCO)

Response: EPA disagrees. The State and Federal air pollution standard and performance goals identified in EPA's ARARs analysis will apply.

41. Comment 2.B.10: No State air quality permits should be required for remedial activities in Mill Creek. (ARCO)

Response: EPA agrees with this comment (section 121(e) of SARA).

42. Comment 2.B.11: The use of EPA's 1980 water quality criteria for arsenic for drinking water is based partially on ingestion of fish and shellfish from contaminated surface water. This criteria should be revised when applied to ground water for drinking purposes. (ARCO)

Response: See earlier discussion of EPA's position on water quality criteria as a drinking water ARAR.

43. Comment 2.B.11: The use of the carcinogenic potency factor for arsenic based on the Tseng Taiwan study is inappropriate as set forth in ARCO's comments on the Clement Associates, Inc., Endangerment Assessment for Mill Creek. (ARCO)

Response: EPA has recently revised the Endangerment Assessment for Mill Creek based on the October 1986 draft Risk Assessment Forum report on arsenic. See responses to ARCO comments on the Endangerment Assessment in Section 3.1. This revised factor derived from the October 1986 draft report was used to identify the RCRA "storage" closure cleanup pool and the health-based performance goal for drinking water.

44. Comment 2.B.12: The MCLs for cadmium and lead are identical to the water quality criteria for lead and cadmium for drinking water. Therefore, the MCLs for lead and cadmium are "relevant and appropriate". Because the water quality for arsenic for drinking water is of questionable technical validity, the MCL for arsenic is also the proper MCI.

Response: See earlier discussion and EPA's ARARs analysis.

3.2.3 GENERAL COMMENTS CONCERNING THE MILL CREEK, MONTANA, DRAFT FEASIBILITY STUDY, SUPPLEMENTAL LEGAL CONCERNS

On-Site Waste Consolidation

1. **Comment:** ARCO stated that choice of ARARs based on multiple pathways of exposure is flawed on both legal and scientific grounds. This comment is apparently based upon ARCO's position that the endangerment assessment has exaggerated risks to residents of Mill Creek so that only permanent relocation is an available option and that reduce risk estimates of ARCO would lead to a limited cleanup of soils and drinking water. ARCO also states that Maximum Contaminant Levels are the only "applicable or relevant and appropriate" requirements (ARARs) for Mill Creek. (ARCO)

   Response: EPA has revised the EA assessment based upon the October 1986 draft Risk Assessment forum "Special Report on Ingested Arsenic and Certain Human Health Effects". Even after this revision significant risks remain, as indicated in the revised EA and EPA's response to ARCO's comments on the EA. Selection of permanent relocation of the residents is based in large part on the cost-effectiveness of the remedy and the threat of recontamination rather than a judgment that an "extreme" risk justifies the "extreme remedy of permanent relocation". Because residents are exposed to hazardous substances along several exposure pathways in Mill Creek, it is appropriate and necessary to consider the cumulative effects of dose received through those pathways in preliminarily identifying cleanup goals for the site for purposes of conducting the RI/FS in order to ensure that cost-effective remedies that are adequately protective of human health and the environment are evaluated. Consideration of such site-specific factors is consistent with the overriding cleanup goal in section 121(d)(1) of SARA. This approach is also consistent with EPA guidance (pages 113 to 123), Superfund Public Health Evaluation Manual. October 1986.

Identification of a health-based performance goal for drinking water at the tap in lieu of the MCL for arsenic based in part on the overall 10^{-6} primary target and of multiple pathway exposure is also appropriate. See EPA's ARARs analysis and Section 121(d)(1) of SARA.

2. Comment: It is premature to select ARARs for on-site consolidation. (ARCO)

   Response: On-site consolidation of waste through moving of contaminated soils to the tailings ponds may create additional releases of hazardous substances in the tailings areas. Fugitive dust emissions from the freshly dug, loose contaminated soil may occur if it is not covered. Surface runoff problems may occur. It is appropriate at this time to evaluate and preliminarily identify ARARs for purposes of conducting an RI/FS for the interim storage of piles of contaminated soil pending selection of a final remedy in the selected storage area.

3. Comment: 40 C.F.R. Part 257 is not a proper ARAR for on-site consolidation of waste. Part 257 is not a "standard requirement, criteria, or limitation" under section 121(d)(2)(A)(i) of SARA because part 257 requirements are guidelines. (ARCO)

   Response: 40 C.F.R. Part 257 is identified in the National Contingency Plan as a potential ARAR. Part 257 is a promulgated regulation, implementing the ban on open dumping in Section 4005(a) of RCRA which may be enforced by any person under Section 7002 of RCRA. The requirements of 40 C.F.R. Part 257 are, therefore, not just unenforceable, advisory guidelines, but are "standards, requirements, criteria, or limitations" within the meaning of SARA. See EPA's ARARs analysis.

4. Comment: Part 257 requirements do not fully address mine waste concerns and contain criteria which are not appropriate for mining waste. Compliance wi part 257 demonstrates adequate protection of health and the environment (floodplains and ground water). (ARCO)

Response: These comments seem contradictory. They admit inadequacies of Subtitle D, but also state that it adequately protects health and the environment. The definition of "solid waste" at 40 C.F.R. section 257.2 does include mining waste within the definition of "solid waste". This includes wastes from air pollution control facilities such as flue dust from smelter emissions which has contaminated Mill Creek (40 C.F.R. section 261.4(b)(7) and 45 Fed. Reg. 76618, Nov. 19, 1980). The contaminated soils are contaminated by solid wastes. However, as acknowledged by EPA at 51 Fed. Reg. 24501 (July 3, 1986), "Part 257 is directed toward municipal and industrial waste and does not fully address mining waste concerns." This point is re-emphasized in the August 19, 1986 policy memorandum from Henry L. Longest III, titled, "Consideration of RCRA Requirements in Performing CERCLA Responses at Mining Waste Sites". That is why EPA is undertaking the development of a revised Subtitle D program for mining waste. As noted on page 6 of EPA's RI/FS supplement for Mill Creek at paragraph III.C.a., Part 257 does not adequately address risks posed by releases of all hazardous substances of concern at Mill Creek into air or direct contact by residents. The only provisions of Part 257 that are pertinent to Mill Creek are the floodplains, endangered species, surface water, State Implementation Plan (SIP), and groundwater provisions. These provisions are duplicated or supercede by other ARARs, criteria, advisories, and guidance (E.O. 11988; 16 U.S.C. section 1531, et seq.; Federal water quality criteria; State water quality standards; Montana State Implementation Plan (SIP), and "relevant and appropriate" RCRA Subtitle C closure requirements). EPA, therefore, will not consider Subtitle D as a significant ARAR for Mill Creek. See EPA's ARARs analysis for further discussion.

5. Comment: 40 C.F.R. section 264.251 requirements for waste piles are not discussed in the RI/FS supplement. The selection of Section 264.251 as a "relevant and appropriate" requirement is premature. A specific plan for storage must be developed by EPA and ARCO before this section can be evaluated. (ARCO)

   Response: EPA addressed 40 C.F.R. section 264.251 in October 31, 1986, EPA comments on the draft Feasibility Study. ARCO partially addressed this comment on page 5-32 of the draft FS report. Because permanent relocation was selected as a remedy, a detailed plan for storage of contaminated soils from Mill Creek is not necessary. If such storage becomes necessary in the future, it is EPA's intention to use a flexible approach in applying the technically "relevant and appropriate" requirements of 40 C.F.R. Part 264.251 in addressing potential releases of hazardous substances along potential exposure pathways. (See 50 Fed. Reg. 47919, Nov. 20, 1985). If an exposure pathway is not relevant (e.g., groundwater will not be contaminated by the storage pile), EPA will not require that the relevant (e.g., groundwater-related) design and operation ("D and O") requirements of 40 C.F.R. section 264.251 be met. If an exposure pathway is relevant (e.g., fugitive dust is a problem), EPA will require that the relevant (e.g., air-pollution-control-related) "D and O" requirements be met (e.g., 40 C.F.R. subsection 264.251(f)).

6. Comment: RCRA "D and O" requirements cannot be ARARs under section 121 of SARA (statute and legislative history). In addition, the endangerment assessment is flawed. (ARCO)

   Response: As described in the response to Comment #5 above, EPA will use a flexible approach in addressing the "D and O" requirements of RCRA Subtitle C as "relevant and appropriate" requirements. They will be used where they are determined to make good technical sense using best professional judgment. This approach is not inconsistent with subparagraph 121(d)(4)(D) of SARA. In addition, the waiver provisions of subparagraph 121(d)(4)(D) are discretionary ("The President may select . . . . " (emphasis supplied)). The citation to HR Rep. No. 99-253 at page 211-213 does not appear to be relevant to this issue. Those pages addressed dioxin wastes, State requirements for transfer, and settlement provisions.

Cleanup at Mill Creek

7. **Comment:** Cleanup of the most stringent level for both drinking water and soil would be improper because the cleanup of soil and water would eliminate multiple pathways. Only a relaxation of cleanup requirements on one pathway would warrant more stringent requirements on the other , and arsenic at MCL levels is necessary for health so cleanup of water would necessiate raising soil cleanup levels. (ARCO)

   Response: See response to comment A.1 and response to arsenic micronutrient issue in EPA's response to ARCO's comments on the EA in Section 3.1.

8. Comment: 40 C.F.R. Part 257 guidelines are not "applicable" to Mill Creek. (ARCO)

   Response: See response to Comments #3 and #4 in Section 3.2.3. The soil in Mill Creek was contaminated in part by a solid waste -- flue dust. However, Subtitle D is not considered a significant an ARAR, as discussed earlier.

9. **Comment:** 40 C.F.R. Part 264, Subpart G, and sections 264.228 and 24.310 are not "relevant and appropriate" requirements for Mill Creek. This general comment is supported by several supporting comments which are summarized below with the associated EPA response. (ARCO)

   a. In determining "relevant and appropriateness," the purpose of the requirements should be evaluated. The purpose of RCRA closure

> requirements is to address contamination from hazardous waste management. (ARCO)

Response: ARCO's comment is addressed to the question of whether the RCRA closure requirements are applicable. EPA does not argue that they are applicable. It is EPA's position that portions of them are "relevant and appropriate".

EPA agrees that the purpose should be evaluated. However, ARCO has evaluated the purpose too narrowly. The purpose of the requirements is to protect human health and the environment through controlling the releases of hazardous wastes, including hazardous constituents, to the environment along exposure pathways (air, surface water, ground water, and direct contact). Arsenic, lead, and cadmium are hazardous constituents listed in 40 C.F.R. Part 260, Appendix VIII, as well as hazardous substances regulated under CERCLA. It is not necessary for the contaminated soils or their constituents to be hazardous wastes in order for Subtitle C to be "relevant and appropriate". The "relevance and appropriateness" of 40 C.F.R. Part 264, Subpart G, and sections 264.228 and 264.310 for addressing these substances can be evaluated in a flexible manner through the exercise of technical best professional judgment in order to determine if they were intended to apply to circumstances similar to those in Mill Creek (50 Fed. Reg. 47919, Nov. 20, 1985). Using the flexible-pathway-oriented approach, it is within EPA's authority to identify and modify, if necessary, the "D and O" RCRA closure requirements referenced as "relevant and appropriate" requirements for Mill Creek.

In the ARAR analysis attached to the August 27, 1987 directive to ARCO for preparing the final RI/FS reports for Mill Creek, EPA describes the two "closure options" available under 40 C.F.R. sections 264.228 and 264.310; 1) "storage" closure under 40 C.F.R. paragraph 264.228(a)(a) and 2) "disposal" closure under 40 C.F.R. paragraphs 264.228(a)(2) and 264.310(a). EPA has determined that a "storage" closure such as that described in 40 C.F.R. paragraph 264.228(a)(1) would require excavation of contaminated soils to background levels. See 52 Fed. Reg. 8706, March 19, 1987. Because human or other receptors of the groundwater pathway are not threatened by contaminated soils in Mill Creek but human receptors of the air and direct contact pathways are, a modified cover or "cap" derived from closure requirements at 40 C.F.R. paragraphs 264.228(a)(2) and 264.310(a) was identified as the "disposal" closure RCRA ARAR. An 18-inch cap was deemed necessary to provide adequate protection from casual disturbances by residents and to support a vegetative cover needed to prevent wind and water erosion from exposure and transporting the remaining buried contaminated soil. The "cap" would be comprised of "clean" soil with arsenic at background levels in order to achieve EPA's multiple pathway risk-reduction primary target of 10^{-6}. Note: The presence or absence of institutional controls affects the "reliability" rating of the "disposal" closure option.

b. RCRA closure requirements are not "relevant and appropriate" for areawide problems such as Mill Creek. (ARCO)

Response: The contamination of soil in Mill Creek was caused by stack and fugitive flue dust emission. Regardless of how arsenic was transported to the soil and how extensive the contaminated area is, it presents very similar public health and environmental problems to arsenic as a hazardous constitutuent under 40 C.F.R. Part 60, Appendix VIII. Modified "relevant and appropriate" RCRA Subtitle C requirements have been preliminarily identified in a flexible manner based on the site-specific nature of the risks rather than through strict literal application of Subtitle C. EPA is not currently addressing regional ground water contamination in Mill Creek, and 160 acres does not compare to 210 roadside miles of PCB contamination.

c. Mill Creek is not a surface impoundment or a landfill, so RCRA closure "D and O" requirements are not "relevant and appropriate". (ARCO)

Response: See NCP preamble discussion of flexible approach for analogizing soil contamination to surface impoundments or landfills at Crystal Chemical site (50 Fed. Reg. 47923, Nov. 20, 1985). Off-site soil contamination at Mill Creek is not a surface impoundment or landfill.

d. RCRA closure standards are not "relevant and appropriate" for mining sites because EPA determined they are "technically infeasible or economically impractical". (ARCO)

Response: EPA determined that, ". . . if applied universally . . ." on a national basis, certain Subtitle C requirements such as ". . . closure . . . standards . . . may be technically infeasible or economically impractical to implement because of the quantity and nature of waste involved" in the recent RCRA mine waste regulatory determination (51 Fed. Reg. 24500, July 3, 1986). This determination was national in scope and does not consider the site-specific conditions at Mill Creek. The modified approach to "closure" discussed above is tailored to provide only environmentally necessary controls which address only the actual documented environmental and health risks in the most efficient manner. ARCO has not argued or demonstrated that complete excavation of contaminated soil ("disposal closure") or partial excavation and contaminated soil ("storage closure") in Mill Creek as described above and in EPA's ARAR analysis is "technically infeasible" or "economically impractical." EPA may consider "relevant and appropriate" technical requirements of Subtitle C of RCRA which appear to be technically feasible at mining sites (memorandum from Henry L. Longest, III, to Regional Administrators dated August 19, 1986, and titled "Consideration of RCRA Requirements in Performing CERCLA Responses at Mining Waste Sites").

e. The choice of background as a cleanup goal is arbitrary and capricious under RCRA. EPA should follow it approach at the Crystal Chemical site and use a risk-based approach to establish an arsenic cleanup level. (ARCO)

Response: EPA would like to clarify its position concerning background as a cleanup goal. The Agency's Superfund Program has established a 10^{-6} excess cancer risk as its remedial action primary target. On a site specific basis the Agency can establish a remedial action objective of between 10^{-4} and 10^{-7} excess cancers. At Mill Creek the background concentration of arsenic in soils is approximately 9 to 16 micrograms/gram. This level of arsenic in soil yields a 1.7×10^{-5} excess cancer risk for the "reasonable maximums scenario" and 1.7×10^{-6} excess cancer risk for the "average case scenario". Both of these scenarios yield an excess cancer risk calculation falling between 10^{-4} and 10^{-7} excess cancers, and the "most likely scenario" cancer risk is the same as the 10^{-6} excess cancer risk goal established by the Agency's Superfund program. In accordance with the guidance which permits site specific decisions, EPA has preliminarily identified the background soil arsenic concentrate of approximately 9 to 16 micrograms/gram as the remedial action objective at Mill Creek.

Background was preliminarily identified as a cleanup primary target because even background levels do not achieve a carcinogenic risk level of 10^{-6} considering the soil ingestion exposure pathway alone. The calculated risk for ingestion of soil alone using the maximum probable exposure scenario yields an excess carsenogenic risk level of 1.7×10^{-5}. This does not even consider risks from ingestion of drinking water or ingestion of inhaled particulate matter in phlegm. Background was considered a reasonable primary target compared to cleaning up beyond background in order to achieve 10^{-6}.

As we discussed earlier, there are two RCRA closure options for Mill Creek which satisfy "relevant and appropriate" RCRA closure requirements: 1) "storage" closure, involving excavation and removal of all contaminated soil above background and 2) "disposal" closure, involving partial excavation of contaminated soil, removal, and replacement with a cap of "clean" soil.

Both of these means would help support EPS's overall site risk-reduction primary target of 10^{-6}, although, as noted earlier, an absence of effective institutional controls could adversely affect the reliability rating of the disposal closure option. The risk calculations used to establish the action level of background for arsenic in soils for the "storage" closure option was established using the more current EPA position from EPA's October 1986 Draft Risk Assessment Forum report on Arsenic. EPA used a risk-based approach similar to that used at Crystal Chemical, using a more current EPA position concerning arsenic toxicity using an overall site risk reduction primary target of 10^{-6} cancer risk and tailoring it to the climatic conditions in Mill Creek.

f. EPA is proposing 18 inches of soil removal and replacement to support a native vegetative cap, and not RCRA closure standards. (ARCO)

Response: Native vegetation is necessary to protect the cap from wind and water erosion as well as human activity so that it remains reliable over the long term in preventing direct contact by residents of Mill Creek. As is described in EPA's direction to ARCO to finalize the RI/FS reports and EPA's ARAR analysis, this cap is less than a "full" RCRA cap because groundwater is not an issue and is based only on "relevant and appropriate" RCRA closure requirements. It has been specially tailored to address site-specific conditions.

10. **Comment:** EPA should not choose an ARAR for ground water at this time. **(ARCO)**

Response: EPA agrees because regional ground water contamination will be addressed in a later operable unit. However, residents would have remained in Mill Creek if a cleanup alternative would have been selected and they would drink water. It is, therefore, necessary to evaluate cleanup goals for ARARs for drinking water at the tap (rather than in the aquifer) so that the evaluation of cleanup alternatives in the RI/FS would be complete. EPA cannot ignore risks posed by arsenic in drinking water.

11. Comment: Section 121(d)(2)(B)(i) of SARA requires consideration of "the latest information available" in evaluating whether water quality criteria are "relevant and appropriate". EPA did not evaluate the latest information available as noted in the November 13, 1985 Federal Register notice for proposed RMCL for arsenic. (ARCO)

    Response: EPA has deferred further consideration of water quality criteria as a drinking water ARAR pending development of Agency policy for implementing Section 121(d)(2)(B) of SARA. EPA has instead preliminarily identified a health based performance goal for arsenic that is more stringent than the MCL for arsenic based on Section 121(d)(1) of SARA and multiple pathways of exposure. See EPA's ARAR analysis. Note: EPA inaccurately stated that the proposed RMCL for arsenic was final in the December 23, 1986 RI/FS supplement for Mill Creek.

12. Comment: EPA selected zero as the water quality criteria for Mill Creek. EPA is questioning the applicability of zero-based standard. (ARCO)

    Response: See response to Comment #11 above. Note, however, that in the December 23, 1986 RI/FS Supplement, EPA did not select zero as the water quality criteria for Mill Creek. EPA initially chose 2.2 nanograms per liter because it is associated with a cancer risk of 10^{-6}.

13. Comment: The legislative history of SARA shows that water quality criteria are only to be applied if an MCL or MCLG does not exist for the pollutant. (ARCO)

Response: See response to Comment #11 above.

14. Comment: The purpose behind MCLs and RMCLs indicates the proposed RMCL or MCL for arsenic should be the cleanup goal for Mill Creek. MCLG's are set at the level with no known adverse health effects. MCL's are set as close to MCLGs as feasible using the best technology and treatment techniques available taking costs into consideration, and SARA requires consideration of technical feasibility. (ARCO)

Response: The proposed RMCL for arsenic is based on outdated information and interpretations. The October 1986 draft Risk Assessment Forum report for arsenic reflects the current EPA position and indicates that arsenic can still pose unacceptable risks of cancer at low doses and that the evidence of a micronutrient role for arsenic in humans is inconclusive and preliminary at best (see Response to ARCO comments on Endangerment Assessment). Note: MCLGs (RMCLs) do not take into account unique, site-specific pathways of exposure in addition to drinking water such as ingestion of soil contaminated by arsenic from smelter emissions.

ARCO argues that the MCL for arsenic was established taking into account the best technology and treatment techniques available and technical feasibility and that the MCL should, therefore, be selected as the standard. ARCO has not demonstrated that a health based water quality cleanup performance primary target as identified in EPA's ARARs analysis or the equivalent modified water quality criteria proposed in EPA's December 23, 1986 RI/FS supplement cannot be achieved for Mill Creek. In fact, the FS has identified alternative water supplies as a relatively low-cost and feasible means of achieving the water quality cleanup goal at the drinking water tap in Mill Creek.

15. Comment: The preamble to the NCP indicates that Safe Drinking Water Act requirements are ARARs for drinking water rather than water

quality criteria. MCLs are listed as potential ARARs, and MCLGs and water quality criteria are only "other federal criteria, advisories, and guidance and state standards to be considered." State water quality criteria are not enforceable. (ARCO)

Response: As acknowledged by ARCO, SARA has superceded the November 20, 1985 NCP to the extent that it is inconsistent with SARA. See response to Comment #11 (above) and EPA's ARARs analysis.

3.3 COMMUNITY CONCERNS

EPA's Activities

1. Concern: Some Mill Creek residents have raised concerns about why EPA decided to study the area in the first place and why it has taken them so long to get things done. Many residents said they have lived in the area for a long time with no health problems. Now that the smelter is closed, they believe that the air and the environment are improving naturally. Some county residents also believe that EPA's presence has negatively affected property values and may be discouraging small business owners from moving to the area. Both the notoriety from media coverage of the area and the limitations of the Superfund program are viewed as hampering local economic development.

   Response: EPA is required by law to protect the health and welfare of residents living near hazardous waste sites on the National Priorities List. The RI/FS process is designed to find the most appropriate yet cost-effective solution to the risks that these sites present. EPA extended the study period because of the serious issues that arose regarding the health effects of arsenic contamination, especially for small children. On a short-term basis, the study process requires EPA to be very active in the Mill Creek area. EPA suggests that long-term benefits, especially for those local residents determined to be at risk, will substantially outweigh the short-term problems and inconveniences that may be associated with its efforts.

2. **Concern:** A number of residents asked EPA to define its program objectives in the area. Residents asked how effective the cleanup can be, given the extent of contamination. They believe EPA cannot afford to clean up the entire area. Yet, with too little cleanup, the area will remain unsafe for either agricultural or residential purposes.

Response: The primary focus of EPA's efforts in Mill Creek is protection of public health. EPA's objectives for Mill Creek are stated in the FS Report (p. 1-4): "The public health protection remedial response objectives for Mill Creek differ between these categories of remedial alternatives: 1) remedial alternatives that involve residents remaining in Mill Creek with various levels of clean up, and 2) the permanent relocation of residents remedial alternative. The remedial response objective for "cleanup" alternatives is permanent protection of public health. The remedial response objective for the permanent relocation alternative is permanent protection of the health of the current residents and supplemented by interim controls to minimize short-term public health risks for current nonresidents. The Master RI/FS for the AMC Smelter Site will address the longer-term public health and environmental issues remaining after the permanent relocation alternative (e.g., regional ground-water contamination)."

Negative Impact on Personal Lives

3. Concern: Residents expressed a high level of satisfaction with their neighbors and with the Mill Creek community and are concerned about loosing their lifestyle and the relationship they have had with their neighbors, in addition to the country setting of their homes.

   Response: The "loss of community" that residents may face when they are asked to relocate also is of concern to EPA.

   Assistance will be provided in planning for a move and in finding a suitable replacement property. If possible, this replacement property will be found in the Mill Creek vicinity, in an effort to minimize the disruptive effect on residents' lives.

4. Concern: Some residents stated the EPA is not sensitive to the emotional impacts of its remedial efforts on individuals and families.

Some residents also are concerned that they are a "test case" for other hazardous waste areas in Montana.

Response: EPA is sensitive to the circumstances of Mill Creek residents. The Mill Creek site was given high priority among the Anaconda sites and the remedial action process was evaluated thoroughly to make sure that all health and safety concerns were addressed. EPA has provided a community relations specialist to assist with local communications and to help residents deal with a number of other problems and issues. In addition, EPA will work to assist residents in planning for and dealing with the chosen remedial alternative.

5. Concern: Several community members have asked if they will be compensated for the stress they have experienced because of their potential relocation and loss of a sense of community, the potential for health problems, community disruption from EPA and ARCO activities, the constant presence of "outsiders" such as security guards, and the long period of waiting for a decision.

   Response: There are no provisions in the Superfund law or regulations for compensation for stress. EPA is concerned about these issues and will provide the necessary assistance to help residents plan for any changes that may occur with selection of a remedial alternative.

6. Concern: Community members have expressed frustration with the EPA process, which they believe has not provided decisions, concrete information, or even reliable general information about the federal government's plans in the area. They said that the information they get is often vague and open to interpretation.

   Response: The study process at the Mill Creek site has required consideration of a broad range of issues before a remedial alternative could be selected. However, EPA has attempted to provide adequate information to the community in formal and informal presentations and make it available to the public for study.

Health and Safety

7. Concern: The residents who wish to stay in the community have expressed concerns about whether it is financially feasible to clean up the area so that it is safe. They also asked how they can ensure that the area will remain uncontaminated once it is cleaned up. Similarly, they are concerned about whether their residences can be effectively cleaned to provide a healthy indoor environment.

   Response: The selected alternative was chosen to protect the health and safety of residents in the most cost-effective and environmentally preferred manner. The potential for recontamination was considered in this final selection. It was determined that the area and residents' homes could not be cleaned sufficiently to ensure their health and safety. The selection of permanent relocation of all residents as the remedial alternative eliminates the concerns about the future safety and cleanliness of the Mill Creek area.

8. Concern: Some residents expressed strong concern about the near- and long-term health problems they may experience because of exposure to contaminants in the area. They have asked EPA to monitor their health over time.

   Response: EPA has concluded that a health study in Mill Creek could not be supported under Superfund. Studies conducted to date are adequate to assess the nature and extent of the contamination and the potential health effects. EPA has conveyed to area residents in a letter to Mrs. Peg Patterson, the opinion of Dr. Sue Binder of the U.S. Department of Health and Human Services (DHHS) regarding additional health studies, which stated:

> "I do not think we should conduct a health study in the Anaconda area for two major reasons. First, the exposures which are currently ongoing are substantially less than those of the past. Data collected at this time would largely reflect the effects of past exposures and would not be useful in evaluating the effects of current exposures. Secondly, the population of the Anaconda area is small in epidemiologic terms. The population having the highest exposures, for example, children living in Mill Creek, is extremely small. It is very rare to have interpretable results from study of such a small population.
>
> If the citizens of the area are concerned about specific health effects in residents of the area, they may be interested in developing their own survey. They can document factual aspects of problems they think exist in the area. The "Citizen's Guide for Community Health Studies," prepared by the State of Michigan, offers guidelines for developing such a survey. I would be willing to offer technical assistance to a group wishing to proceed with a survey."

Such a study would make it possible for residents to keep track of health issues over time. The Community Relations Specialist could assist in setting up a workshop with the DHHS representative and in making the appropriate materials available.

9. **Concern:** A commentor who lives outside of Mill Creek but within the region that could be affected by EPA activities at Mill Creek expressed concern that moving soil for a cleanup would cause negative effects on local air quality, and consequently for his beehives.

Response: EPA was aware of the concerns about dust during soil removal for cleanup. This was given consideration in the decision making process. However, there should be no negative effects on local air quality during the implementation of the selective alternative, the relocation of Mill Creek residents.

10. Concern: One resident said that urinary arsenic levels are similar for his child, who remained in his Mill Creek residence, and for children who were temporarily relocated. Given this, he asks if the temporary relocation effort was really necessary.

    Response: The temporary relocation was considered necessary to protect children from potential dangers associated with contaminants in the Mill Creek area. Because arsenic is rapidly excreted from the body, urinary arsenic levels reflect recent exposure. However, a single measure of the arsenic level in any one individual may not be indicative of long-term exposure to arsenic. A series of measurements is needed to make a meaningful judgment of an individual's exposure.

11. Concern: Residents are concerned that they may have to move in order for EPA to carry out more studies. Similarly, with a cleanup effort, some residents ask why temporary relocation is necessary and whether EPA could simply "clean around them" if soil removal is the chosen remedial alternative.

    Response: Temporary relocation of residents was considered as a remedial alternative in an RI/FS Report Addendum. However, this alternative is no longer under consideration, thus the public concerns in #11 are eliminated. The selected alternative, permanent relocation of all residents of Mill Creek, is the most cost-effective and environmentally preferred remedy.

Property Values and Costs

12. Concern: Residents expressed strong concerns about how they would be compensated if they were relocated from Mill Creek. They asked whether compensation for their properties will be based on market value or on true replacement value, which provides a similar house and property. Others have asked if some people, such as elderly and retired people, can choose a cash settlement rather than another house.

    Response: The options for relocation of residents from Mill Creek include (1) relocation under the direction of FEMA and (2) voluntary relocation by ARCO. If FEMA manages the relocation process, it would follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and related regulations (44 CFR Part 25). Under these regulations, the FS Report indicates that property owners can be offered fair market value or a higher amount depending on the relocation officials' judgment of just compensation. The fair market value would be based on an appraisal of the property's value prior to discovery of contamination in Mill Creek. Owners can appeal an offer to the government and can pursue judicial review. If FEMA does not manage the relocation process, the compensation process can be more flexible but will follow the same guidelines.

13. Concern: Several Mill Creek community members believe the EPA remedial program has lowered their property values. They stated media exposure has made the properties unsellable and possibly not mortgageable. Residents also are uncertain about whether to improve their homes if they are going to be relocated; as a consequence, many said that their homes are depreciating. They asked when a decision will be made about the remedial alternative and possible compensation, so they can make plans to address any changes that will result from the decisions.

Response: It is possible that negative publicity about Mill Creek has affected attitudes toward property values in Mill Creek. However, under the Superfund guidelines relocation compensation is decided on individual case-by-case basis and could be based on property values before contamination was discovered in Mill Creek. In carrying out the selected alternative consideration will be given to residents' concerns.

14. Concern: Some people in the community expressed concern that EPA or ARCO will relocate current residents, cleanup the property, and then sell it to others at a profit.

    Response: Under the selected alternative of relocation of all residents, it is likely that title to the land would be held by ARCO. As presented in the RI/FS cleanup costs for Mill Creek are potentially very high. The potential for profit is considered to be minimal. Permanent cleanup will be evaluated in the RI/FS conducted for a later operable unit.

15. Concern: Residents stated that there are many other direct costs in addition to the value of the property that may be associated with relocation. They asked whether they will be compensated for these other costs, such as higher mortgage payments, moving costs, commuting costs, and increased utility cost, if they must move.

    Response: Under a FEMA relocation program, the regulations at 44 CFR Part 25 noted above also would provide for compensation of the increased cost of a comparable residence, and the increased cost of new financing under certain circumstances, title transfer expenses (to the proper governmental body), and moving expenses. However, all settlements are determined on a case-by-case basis.

Land Use and Environmental Concerns

16. Concern: Some residents have asked, in the event they must relocate, what would prevent EPA from finding contaminants in their new neighborhoods and starting the process all over?

    Response: If FEMA is the responsible agency, the regulations it must follow in relocating residents, include assistance in finding a comparable replacement dwelling for the people to be relocated. The FS Report (pg. 5-53) describes the process in the following way: "One 'comparable replacement dwelling' must be made available to the displaced person and if possible three or more comparable replacement dwellings. A comparable replacement dwelling is defined as decent, safe, and sanitary (meets applicable housing and occupational codes), functionally similar to the person's displaced house, in an area that is not subject to adverse environmental conditions and is accessible to the person's place of employment, on a site that is typical in size for residential development with normal site improvement, currently available to the displaced person, and within the financial means of the displaced person", [44 CFR Part 25, (emphasis added)].

17. Concern: Local officials expressed concern that the land use classifications given in the FS Report are inconsistent both with remedial response objectives and local land use planning responsibilities. They asked how EPA and ARCO intend to coordinate with them regarding local land use regulations and guidelines. Local land use regulations would require that land in Mill Creek, at a minimum, be returned safely to its intended use, agricultural, or that an alternative classification be requested. Officials further noted that the limits to be put on land through EPA's or the State's authority may conflict with the county's traditional prerogative to regulate land use.

Response: The land use areas in the FS Report created by ARCO to focus the investigation on the areas of Mill Creek that ARCO believed were used by people most frequently (high use areas), less frequently (outlying areas) and very infrequently, if at all (ARCO-owned areas), were used to evaluate different degrees of cleanup programs. EPA indicated reliability problems with remedial alternatives based on these land use categories in the FS report and identified reasons why this classification was not consistent with the remedial response objectives (Final RI/FS, p. 3.3). EPA qualified this land use classification scheme throughout the RI/FS by identifying long-term reliability problems with partial cleanup remedial action alternatives relying upon the ARCO land use classification scheme.

EPA does not intend to supplant traditional land use planning by local authorities. If a need for institutional controls to supplement remedial action is identified by EPA in future operable units at the Anaconda Smelter NPL, EPA will contact the responsible land use planning authorities to discuss alternative approaches. See response to Comment #7 in Section 3.4 Policy Issues for detailed discussion of EPA's position.

18. Concern: Deer Lodge - Anaconda City and County officials have requested a technical assistance grant to help them understand the technical issues related to land use in the county.

Response: A formal application must be filed with EPA before a technical assistance grant request can be considered. The local community relations specialist, who works under contract to EPA with residents living in the vicinity of the Anaconda site can assist community members with this effort. Grant funds will be available as soon as EPA develops and publishes rules for this new program. This is anticipated for December 1987.

19. Concern: The director of the Bureau of Solid and Hazardous Waste of the Montana Department of Health and Environmental Sciences has indicated his concern that the EPA process has been too narrowly focused on public health issues and not adequately considered environmental and welfare issues as required by Superfund.

Response: EPA has followed all of the requirements of Superfund in reviewing and guiding ARCO's work. Public health has been the primary focus of these efforts, as intended by Superfund. Additional environmental and welfare issues will be further addressed in RI/FS activities associated with subsequent operable units at the Anaconda Smelter NPL site.

3.4 POLICY ISSUES

1. Comment 2D(1): ARCO expressed concerns that EPA substantially altered the public health and environmental screening summary table (Table 4.4-1) resulting in an analysis which misrepresents the preliminary screening of remedial action alternatives. (ARCO)

   Response: EPA directed ARCO to make the revisions to Table 4.4-1 in order that the analysis represented by this table be consistent with the analyses presented in section 5 of the FS. As EPA became more aware of the faulty assumptions supporting alternatives which were evaluated in the initial alternatives screening document, EPA directed ARCO to make the necessary changes in the screening summary which would make the FS internally consistent.

2. Comment 2.6: ARCO provided a comment expressing concern over EPA's position that ARCO remove experimental results presented in the Drat RI/FS intended to represent partial release of metals in the human gut. (ARCO)

   Response: The extraction procedures used in the "human gut" experiments had little to do with the conditions of physiologic effects in the stomach or gut. Absorption of metal through the small and large intestine results from multi-faceted mechanisms. Most of the absorption is by facilitated transport pinocytosis. EPA therefore did not feel that the experimental results should be presented in the RI/FS.

Failure Criteria of Potential Failure Ranking Matrix in FS

3. Comment 5.1: ARCO contends that land uses have a roughly equal potential to change regardless of the alternative considered. (ARCO)

Response: As explained by footnote 17 to Figure 5.6-1, failure of the remedy resulting from changes in land use would vary depending on the amount of soil removed from the site. Clearly if all contaminants were removed (42 inch soil removal) there would be a very low potential for failure of the remedy even if land use changed. Conversely, if only 6 inches of soil were removed, leaving a contaminated substrate, the potential for exposure to contaminants (failure of the remedy) would be higher if land use changed to a higher land use where contaminants could be reexposed through any of several human activities such as gardening or constructing foundations.

4. **Comment 5.2:** ARCO contends the ranking of potential failure for Alternative #12 is inconsistent with the definition of Alternative #12, which assumes institutional controls will not be affective. (ARCO)

   Response: EPA disagrees with ARCO's position. Clearly if all contaminants are removed (i.e., 42 inch soil removal) there is little potential for the remedy to fail regardless of the failure of institutional controls. This point is presented in footnote 17 to Figure 5.6-1.

5. **Comment 5.3:** ARCO contends the rankings in the matrix concerning potential failure of vegetation are incorrect because they are based on an incorrect assumption that 18 inches of suitable rooting material would be necessary in order for vegetation to survive over the long term. (ARCO)

   Response: EPA continues to disagree with ARCO's position. EPA's position has been conveyed several times to ARCO. Most recently EPA's RI/FS addendum and letter of August 27, 1987 respond to this concern.

6. Comment 5.4: ARCO disagrees that 0.05 to 1.5 mg/kg annual arsenic deposition in the upper 1 inch of soil represents a moderate potential for recontamination. (ARCO)

   Response: EPA's statement that a moderate potential for recontamination exists (see footnote 22, page 5-14) is based on a long term perspective. EPA has no assurance that remedial action will adequately address the expansive source areas of contaminated soils/wastes upwind from Mill Creek. EPA's recent air monitoring in Mill Creek indicates that contaminated materials continue to be imposed on Mill Creek in spite of efforts to cover flue dust piles and to cover Smelter Hill with clean fill materials. EPA therefore maintains that a moderate potential exists for recontamination from annual arsenic deposition of contaminated upwind areas.

7. Comment: ARCO has provided numerous comments regarding their disagreement with EPA's decision to disallow subdividing land use between high, medium, and low with respect to the development of remedial alternatives. (ARCO)

   Response: It has been and continues to be EPA's position that the basic assumption underlying the land use division -- that ARCO will hold title to the land in Mill Creek in perpetuity -- is specious. EPA fully understands ARCO's rationale for developing the range of alternatives that it did. EPA's position is that current land use does not reflect realistic land use at the conclusion of the remedial action let alone one or two years after that. It is reasonable to assume that after remediation is completed the lands would be sold by ARCO. This is consistent with ARCO's current practice. EPA's mandate from Congress for permanence (CERCLA 121(d)) requires EPA to consider the likelihood of different land owners for the site. To that objective, EPA feels that without any effective institutional controls available, ARCO cannot assume limited future use of the area. The use of fencing is not in and of itself a permanent remedy. Fencing is used merely to limit access during the establishment of a vegetative cover.

8. Comment: ARCO states that changes requested by EPA regarding the qualification of a stratified land use result in biased analyses slanting the preferred alternatives to either permanent relocation or complete excavation. (ARCO)

   Response: EPA disagrees with ARCO's contention that the results are biased. The addition of qualifying language clarifies to the public that EPA does not accept ARCO's position that remediation should be conducted on an ownership basis rather than a contamination level basis. EPA's request was to develop a range of excavation alternatives based upon concentration of contaminant and depth due to the extremely tenuous nature of their future land ownership.

9. Comment: ARCO is unaware of a requirement for a State-FEMA cooperative agreement, and the state requirement to assure provision of adequate off-site disposal facility. (ARCO)

   Response: A Memorandum of Understanding (MOU) between EPA and FEMA dated April 8, 1985 outlines procedures for establishment of cooperative agreements between States and FEMA concerning State assurances, roles and responsibilities in permanent relocation actions.

   In a fund-financed state-lead remedy, EPA would also enter into a cooperative agreement or contract with Montana in which CERCLA 104(c)(3) assurances would have to be agreed to. This includes 104(c)(3)(B) which would require Montana to provide off-site disposal facilities if they are necessary. This provision becomes effective in December 1989. Based upon current schedules this assurance may not be relevant. The selected remedy includes not only acquisition of property but the demolition of structures as well which implies on-site temporary disposal facilities. If, however, appropriate on-site temporary disposal facilities are not available, the off-site location may be necessary although not expected at this time.

10. Comment: A commentor expressed concerns that as part of the remedial action at Mill Creek, no contaminated soils should be moved in order to prevent any airborne contamination. (Public)

Response: EPA acknowledges that there is the potential for contaminated dust to be released during house demolition or site stabilization procedures. Best management practices will be implemented to minimize releases of dust. This short term effect is considered acceptable given the benefit of the risk reduction which would result from the remedial action.

11. Comment: The risk numbers presented in the Mill Creek Feasibility Study are inconsistent with the early December, 1986 CAG meetings. (Public)

Response: Mill Creek Endangerment Assessment and the Feasibility Study have been revised to be consistent with the October 1986 Draft Arsenic Risk Assessment Forum Report.

3.5 TECHNICAL ISSUES

1. Comment: Activity patterns of people living within the site boundaries should be evaluated to determine a time-weighted average exposure. (ARCO)

   Response: EPA does not accept ARCO's recommendation to use a time-weighted exposure assessment. This approach does not support the objective of the RI/FS for cleanup alternatives to permanently protect human health within the boundaries of Mill Creek. The potential exists for homes to be constructed throughout the confines of the community and children may roam widely during play activities. A clearly delineated boundary between high use and outlying areas would be arbitrary and of doubtful validity. This position was previously stated in Robert L. Duprey's letter to Dr. Richard Krablin dated October 31, 1987.

2. Comment: It is unrealistic to use the maximum values for each medium in calculating the worst case risk estimate. (ARCO)

   Response: EPA has revised the Endangerment Assessment to include all applicable environmental data collected in the Mill Creek area. The worst case risk estimate is based on the highest concentrations of contaminants in each medium to which residents could potentially be exposed.

3. Comment: One of the sources of uncertainty in the risk assessment model is due to the accuracy and precision of analytical data for the various environmental media. (ARCO)

   Response: Analytical data collected as part of the Mill Creek RI/FS was subjected to strict quality control and quality assurance (QA/QC) procedures. Only those data that met or exceeded all of the QA/QC criteria were used in the risk assessment model. Although some error may occur due to variation in analytical results, the error in the data base upon which the risk assessment was based was sufficiently low to minimize the uncertainty due to analytical variability. Refer to EPA's detailed comments concerning data utilization, transmitted to ARCO in an August 27, 1987 letter to Jack Davis.

4. Comment: Another source of uncertainty in the model is the human activity patterns in low use non-residential areas. (ARCO)

   Response: EPA's goal is long term protection of public health in Mill Creek. Because of the potential for future changes in land use and the widespread nature of the contamination, EPA felt that it was appropriate to include data on contamination levels in adjacent non-residential areas in the risk assessment model.

5. Comment: The Montana Water Quality Act anti-degradation policy is not applicable because non-point sources are not considered to be degradation if reasonable land, soil, and water management practices are applied. (ARCO)

   Response: Although the State's nondegradation policy for surface water was identified as a State ARAR by Montana and is set forth at MCA Section 75-5-303 and ARM Section 16.2.701(1) the nondegradation policy will not apply. The only potential sources of discharge into the stream of Mill Creek are non-point sources and these will be adequately addressed by best management practices. See EPA's ARARs analysis.

6. Comment: If the water quality anti-degradation policy were considered relevant and appropriate, land in Mill Creek would have to be managed such that no exceedances of water quality standards occurred. (ARCO)

Response: ARCO's comment does not accurately reflect the State requirements. The State's nondegradation policy is set forth at MCA section 75-5-303 and ARM section 16.20.701(1). Subparagraph 16.20.701(1)(b)(1) states that, "Changes in surface water quality, or ground water quality whether or not applicable ground water standards for dissolved substances are violated, resulting from nonpoint source pollutants from lands where all reasonable land, soil, and water management or conservation practices have been applied are not considered degradation." See EPA's ARARs analysis.

7. **Comment:** The state's ground water standard is not more stringent than the applicable Federal standard, and, therefore, need not be considered. (ARCO)

   Response: It is EPA's opinion that the state's nondegradation policy is not applicable. See EPA's ARARs analysis.

8. **Comment:** The State's 24-hour standard for total suspended particulates is not applicable because actions in Mill Creek would not be considered "stationary sources" or major stationary sources. (ARCO)

   Response: The State's total suspended particulate standard is applicable to any ambient air accessible to the public. For applicability of the State's TSP standard as an ARAR see EPA's ARARs analysis and response to Comment #14 in Section 3.2.2.

9. **Comment:** Air quality permits are not required for remedial actions under Superfund. (ARCO)

   Response: Permits are not required for on-site actions taken under CERCLA. However, these actions must comply with applicable, relevant and appropriate standards, guidelines, and criteria of State and Federal environmental laws.

10. Comment: The costs for temporary relocation presented in the RI/FS report supplement lack sufficient detail to allow accurate comparison of the cost of temporary relocation with the cost of permanent relocation and buyout (Alternative 1A). (ARCO)

Response: Additional detail on the costs for temporary relocation have been incorporated into the Final RI/FS for the Mill Creek.

11. Comment: When costs such as for relocation of residents back to Mill Creek and common response actions such as house cleaning, water supply replacement, and road paving are included with the temporary relocation option, the cost for temporary relocation for only one year is roughly equivalent to that for permanent relocation with buyout. (ARCO)

Response: A detailed comparison of cost for temporary and permanent relocation is included in the Final RI/FS.

12. Comment: The cost of complete buyout may eventually be included under the temporary relocation option if permanent relocation of Mill Creek residents were determined to be an appropriate action following completion of the Smelter RI/FS. (ARCO)

Response: EPA agrees.

13. Comment: The Potential Failure Ranking Matrix presented on page 5-140 of the FS report fails to present an objective evaluation of the remedial action alternatives. (ARCO)

Response: EPA feels that the Potential Failure Ranking Matrix does present an objective evaluation of the long term effectiveness of remedial action alternatives. Comments #14 and #15 address specific concerns regarding this matrix.

14. Comment: Changes made by EPA in the public health screening summary table (Table 4.4-1) in the FS report misrepresent the preliminary screening of remedial action alternatives. (ARCO)

Response: EPA feels the original analysis was satisfactory. However, the RI/FS health screening table was changed due to additional analysis/data.

15. Comment: The matrix indicates that the potential for change in land use would be greater for Alternative #12. Land uses have a roughly equal potential to change regardless of the alternative considered. (ARCO)

Response: Alternative #12 was added to evaluate conditions that would result if institutional controls were ineffective. It was not EPA's intent to indicate that the potential for land use changes would be greater or less for Alternative #12 than for other alternatives. The Potential Failure Ranking Matrix in the Final FS, reflects this intent and indicates that Alternative #12 has potential for changes in land use in accord with the other alternatives.

16. Comment: The potential for failure of institutional control for Alternative #12 is inconsistent with the definition of Alternative #12, which assumes institutional controls will not be effective. (ARCO)

Response: EPA agrees. The potential failure of institutional controls for Alternative #12 is listed as "High" in the Potential Failure Ranking Matrix in the Final FS.

17. Comment: It is incorrect to assume a high potential for failure of vegetation simply because 18 inches of clean fill material would not be provided under some alternatives. (ARCO)

Response: Available information on the soils of the Mill Creek site provides substantial evidence that arsenic and trace metals are present at concentrations greatly exceeding background levels and that arsenic and metals in these soils may limit the suitability of these materials as a plant growth medium. It is therefore correct to assume, at the FS stage, a high potential for failure for alternatives which would not provide a suitable plant growth medium within an adequate root zone. During the remedial design phase, it will be appropriate to evaluate available materials for their suitability as a plant growth medium at this site.

Existing field data and evidence available in the literature suggests that plant productivity and cover may be affected by arsenic, metals, and other soil suitability factors. The erosion protection afforded by vegetation may be affected by soil factors since these factors have been shown to influence the establishment and maintenance of an effective vegetation cover. To be effective, a soil and vegetation cover must prevent re-exposure of the contaminated soils which would result from wind and water erosion in the absence of such a cover.

EPA recognizes that soil or plant growth medium suitability evaluations should include laboratory soil analysis of plant available arsenic and metals and should also encompass additional variables. As an example of applicable suitability criteria, Shafer (1979) provides suitability criteria for land capability classes which include, for a Capability Class IV soil, root zone depth greater than 50 cm, vfsl to sicl texture, less than 35 percent lithic rock fragments, greater than 3.5 in. available water holding capacity, a range of drainage classes, slope less than 15 percent, no erosion hazard to moderate erosion hazard, electrical conductivity less than 4 millimhos/cm, sodium adsorption ratio less than 20, pH 4.5 to 9.0, and climatic considerations. The draft Montana Department of State Lands topsoil and subsoil suitability criteria also provide useful guidance in this area.

18. Comment: An annual arsenic deposition rate estimate of 0.05 to 1.5 mg/kg in the upper 1 inch of soil represents a low or low to moderate potential for recontamination, not a moderate potential for recontamination as indicated in footnote 22 (page 5-14). (ARCO)

Response: EPA agrees that the modeling results indicate that the short-term potential for recontamination is low. However, EPA's goal is long term protection of public health. If deposition continued over several decades, as has occurred previously, significant recontamination of Mill Creek soils could result. Also, it is EPA's understanding that modeling was based on average wind speeds and average wind direction for the area. There is a potential for significant recontamination to occur during periods of high winds, especially if highly contaminated materials such as flue dust were transported under these conditions. For these reasons, EPA feels that a moderate potential for recontamination exists.

19. Comment: Comparison of vegetation cover class and surficial soil arsenic concentrations indicates that arsenic concentrations vary greatly for all vegetation classifications. (ARCO)

Response: EPA agrees. However, no conclusion regarding vegetation responsive to soil contamination can be substantiated by this observation. The comment references mapping of vegetation which is comprised of broadly defined mapping units (cover classes) delineated on the basis of species composition and structure of the vegetation. Each unit includes variation in species composition, structure, productivity, vegetation cover, associated soils, land use history, and other variables. Because of this inherent variation it is inappropriate to suggest that vegetation is indifferent to arsenic or other metal concentrations based on the occurrence of wide variation in surface arsenic concentrations within each cover class.

20. Comment: The EPA conclusions regarding cause-and-effect relationships between soil concentrations of arsenic, copper, lead, and zinc, and the lack of vegetation in Mill Creek were obtained using erroneous reasoning and the inappropriate use of data. (ARCO)

    Response: The EPA Remedial Investigation/Feasibility Study Report Supplement appropriately identifies arsenic and metal contamination as a factor limiting the suitability of Mill Creek soils as a plant growth medium. While not definitive on this question, the Mill Creek Remedial Investigation Report (ARCO, 1986) also concludes that arsenic and metals contamination may have caused barren areas at the site: "In addition to the above-mentioned reasons for poor vegetation cover, phytotoxicity resulting from elevated soils metals concentrations may play a role." The EPA and ARCO appear to be in concurrence that the Mill Creek soils have elevated concentrations of arsenic and metals and that elevated concentrations of arsenic and certain metals may cause phytotoxic effects.

21. Comment: Because phytotoxic soil concentrations cannot be inferred from literature, and are not known from field sampling, no conclusions should be made regarding the cause of sparse vegetation in the Mill Creek area. (ARCO)

    Response: The field observations reported in the Mill Creek Remedial Investigation Report (ARCO, 1986) include sparse vegetation (Dry meadow/Bare Areas) in areas east and south of contaminant source areas. Arsenic and certain metals have been shown in the scientific literature to inhibit plant growth or to be phytotoxic. Therefore, EPA's conclusion that arsenic and metals may occur at Mill Creek at concentrations unsuitable for a plant growth medium is entirely justified.

22. Comment: A more thorough evaluation of the existing soil should be conducted before complete topsoil replacement is prescribed. Furthermore, an analysis of methods to reduce plant-available heavy metal and arsenic concentrations in existing soil should be conducted. (ARCO)

Response: If the remedial alternative selected includes topsoil replacement, additional soil sampling will be conducted to further define the nature and extent of contamination. Although the toxicity of metals to plants is of concern to EPA, the primary focus of the Mill Creek RI/FS is protection of public health. Mitigation of environmental impacts in the Mill Creek area will be addressed as part of the Anaconda Smelter RI/FS.

23. Comment: If rooting depth is the critical variable, revegetation species could be restricted to sod-forming grasses which require a rooting depth shallower than 18 inches. (ARCO)

Response: Use of sod-forming (rhizomatous) grasses will not reduce the depth of suitable material needed for an adequate rooting zone. Roots which develop from the grass rhizomes of a sod may occupy as much soil volume as the roots of caespitose (non-rhizomatous or short rhizomatous) grasses (Weaver 1958). Characteristically shallow-rooted plant species include both rhizomatous and non-rhizomatous grasses. Shallow rooted plant species should not be selected for reclamation because they are inferior for soil stabilization purposes; they yield greater run-off, as a result of reduced absorption, and produce a higher erosion risk. Revegetation species should be selected to help provide a permanent, diverse, and effective vegetation cover. Species selected should be perennial and should have a demonstrated ability to reproduce, by seed or other means, in a similar environment.

24. Comment: EPA's conclusion that the current distribution of bare and vegetated areas on the Mill Creek site is determined by concentrations of arsenic and heavy metals in soils is not justified and should be eliminated from the RI/FS. (ARCO)

Response: See response to Comment #20 in Section 3.5.

25. Comment: Without an analysis of other factors that may control plant distribution (e.g., available soil water, soil pH, available nutrients, or soil structure), it cannot be concluded that high soil concentrations of metals preclude the establishment of plant cover. (ARCO)

Response: Soils which are barren of vegetation occur in the Mill Creek area. Available information indicates that the suitability of these soils as a plant growth medium may be limited by the concentration of arsenic and heavy metals. It is not necessary to demonstrate that the existing soils are unsuitable for revegetation purposes. Rather, it will be necessary to demonstrate in the remedial design that materials proposed for a plant growth medium at the site will meet accepted suitability criteria including depth, physical characteristics, and chemical characteristics.

26. Comment: The X-MET data are inappropriate for characterization of contaminant distributions and evaluation of potential public risks. (ARCO)

Response: Analysis of variance calculations have demonstrated the capability of X-MET analyses to distinguish between different contaminant levels (As, Pb, Cu, and Zn) given the high sample variance present at the Mill Creek site. X-MET data were used for screening purposes and not for evaluation of public risk.

27. **Comment:** The X-MET data often indicated (especially for arsenic) concentrations of several hundred ppm when concentrations were actually at or near background. (ARCO)

Response: Concentration ranges between background and 300 ppm are very close to the analytical detection limit of the X-MET instrument and subject to uncertainty. Because concentrations within this range are much lower than anticipated action levels they are considered insignificant from a screening standpoint.

28. **Comment:** X-MET data for lead and copper often indicated undetected concentrations when concentrations were actually several hundred ppm. (ARCO)

Response: See response for Comment #27 above.

29. **Comment:** In the concentration range between about 1 to 10 times the X-MET detection limits, the X-MET exhibited sporadically wide positive and negative deviations from results obtained via approved U.S. EPA methods. (ARCO)

Response: In most cases, X-MET results within this range were within ±20 percent of the CLP results. The X-MET exhibited optimum precision within this range, which is likely to include the contaminant action levels. This is considered adequate for screening which was the goal of the analysis.

In addition, the two methods are different; the results are not expected to agree perfectly. X-MET analysis is a "total" analysis, whereas the CLP method is an HNO_3/H_2O_2 digestion.

30. **Comment:** For concentrations above about 10 times the X-MET detection limits, the X-MET data tended to be substantially lower than results obtained via approved EPA methods. (ARCO)

Response: Concentrations above 10 times X-MET detection represent substantially contaminated samples regardless of precise agreement with CLP values. The X-MET technique was not designed to optimize the precision at highly contaminated levels but, rather, it was designed to accurately indicate when a sample was highly contaminated. In this regard, the X-MET technique did not fail to recognize contamination above 10 times background.

31. Comment: Columbia Scientific Instruments (CSI) concluded based on an evaluation of EPA X-MET, quality assurance data and CSI data that the X-MET 840 had been improperly calibrated by EPA during the Mill Creek investigation. (ARCO)

Response: The X-MET instrument was calibrated according to standard procedures outlined by CSI in their operating manual and by personnel trained by CSI. The calibration technique employed for this study has since been verified by Stan Piorek (X-Ray Laboratory Manager at CSI). The EPA X-MET data agrees very well with the data determined independently by CSI, "thus confirming the correctness of the approach" (Stan Piorak, personal communication).

32. Comment: The EPA X-MET soils data lacks sufficient accuracy and precision to be used for the elucidation of contaminant distribution for the evaluation of risk levels. (ARCO)

Response: Calculations of analytical precision indicate that the X-MET technique is capable of distinguishing between contaminant levels for the range of As, Pb, Cu, and Zn concentrations present at the site. The X-MET screening technique was meant to identify areas for further study and not for health risk evaluation.

33. Comment: It is doubtful if the house cleaning measures described in the Feasibility Study could adequately purge a home of toxic dusts by washing and insulation replacement. (Public)

Response: The results of professional house cleaning of selected households as part of a Centers for Disease Control (CDC) investigation in Mill Creek were inconclusive. Measures in addition to house cleaning that may be necessary include, but are not limited to the following: replacement of attic insulation; painting of interior walls; caulking of windows; cleaning of heating ducts; and replacement of carpeting.

34. Comment: If an alternative is selected allowing Mill Creek residents to remain in their present locations, a serious indoor sampling effort should be done to assess the risks. A full disclosure of the ECOLOGY AND ENVIRONMENT, INC. indoor studies should be made. (Public)

Response: A description of the indoor studies conducted for EPA by Ecology and Environment, Inc. (E&E) is included in a memorandum from David Franzen (E&E) to Mike Bishop (EPA), titled "Preliminary Results of the Residential Dust and Soil Sampling in Anaconda, Montana and Surrounding Communities" (12/2/85). A copy of this memorandum is included in the Administrative Record for the Mill Creek RI/FS and is available for inspection by the public. If residents were to remain in Mill Creek, additional indoor sampling would be conducted to ensure that public health goals were met. Consideration of the selected alternative, relocation of all residents, removes the necessity for indoor sampling.

35. Comment: Run-off waters are known to be important causes of on-going land contamination and livestock loss at the East Helena Superfund site and should be investigated further in Mill Creek. (Public)

Response: Unconfirmed reports of livestock and house pet loss due to drinking of contaminated waters have been reported in the area. However, analyses of surface waters conducted as part of the Mill Creek RI/FS do not indicate significant potential for recontamination of land or potential for livestock loss from runoff water. Additional measures to protect livestock and wildlife will be evaluated as part of the Anaconda Smelter RI/FS. Run-off control measures will also be considered to prevent recontamination of the Mill Creek area.

36. Comment: Considerable soil data have been collected but data are not readily comparable due to differences in sample design. (Public)

Response: Several different studies have been conducted to characterize the nature and extent of soil contamination in the Mill creek area. Although sampling methods and analytical techniques have differed somewhat from study to study, the studies yield consistent results and indicate widespread contamination of soils in the Mill Creek community.

37. Comment: Quality assurance information in the RI/FS is lacking. (Public)

Response: Extensive quality assurance and quality control (QA/QC) procedures were implemented for all steps in the collection, transport, analysis, and data reduction of samples collected in support of the Mill Creek RI/FS. The QA/QC data for the Mill Creek RI/FS data base is included in the Administrative Record which is available for inspection by the public. In addition, detailed comments concerning data utilization was transmitted to ARCO in an August 27, 1987 letter to Jack Davis.

38. Comment: Soils metal data appear to be inconsistent because data described as total elemental analyses presented in Clement (1986) are

generally less in concentration than corresponding extractable metal data included in the RI/FS report. (Public)

Response: The digestion procedure used for soil samples collected for the Mill Creek RI/FS was a nitric acid/hydrogen peroxide extraction solution. This method yields the total extractable metals concentration. The analyses reported in Clement (1986) and the RI/FS were performed using the same extraction procedure and should be referred to as "total extractable metals". This discrepancy has been corrected in the Final RI/FS.

39. **Comment:** The gradient in arsenic levels in community soils suggest that the flue dust storage area was and is the main source of Mill Creek soil arsenic. (Public)

Response: The elevated soil concentration near the flue dust storage facility does suggest that this source contributed to the contaminant levels in the Mill Creek area; however, much of the soil contamination in the Mill Creek community is the result of historic smelter emissions.

40. **Comment:** Other potentially toxic elements, in addition to arsenic, lead, and cadmium, can be emitted from non-ferrous smelting operations. Analyses for these elements should be performed. (Public)

Response: Area soils, including samples from Mill Creek, have been analyzed for the following parameters: antimony, arsenic, cadmium, copper, chromium, iron, lead, manganese, mercury, and zinc. Of these potential contaminants, only arsenic, lead, and cadmium are present at levels sufficiently high to pose a threat to human health.

41. Comment: Future recontamination from surface waters and fugitive dust could jeopardize the safety of small children and pets and could contaminate garden vegetables. (Public)

Response: Prevention of recontamination by surface waters and fugitive dust will be included in the remedial action for Mill Creek and in the Anaconda Smelter RI/FS. Consent agreements between ARCO and EPA have been implemented to reduce fugitive emissions from potential sources of recontamination such as the flue dust storage facility and road dust.

42. Comment: Air quality contamination in 1984 and 1985 are not as elevated as those from historic data (e.g., 1961). (Public)

Response: Recent air quality contamination (1984 and 1985) was not as elevated as historic contamination because the smelter has been decommissioned. The focus of the Mill Creek RI/FS is to evaluate existing and future risk and to determine means of reducing that risk. Historic data was useful for assessing the source of contamination but is not a factor in estimating risk or evaluating potential remedies.

43. Comment: The one-in-three day samples collected in 1984-85 collected only one third of the available particulates, i.e., two-thirds of the dust episodes associated with flue dust handling, smelter demolition, etc. were not measured. (Public)

Response: It is standard procedure to operate a high-volume air sampler for a 24 hour period every 3 or 4 days. Some dust episodes would be missed during this period; however, continued monitoring over a period of years will provide data that are representative of existing conditions.

44. **Comment:** Observations at the Kellogg, ID Superfund site indicate that cadmium migrates upward rather than downward within the soil profile. (Public)

Response: Numerous factors affect the rate and direction of metal migration in a soil profile. Normally, the net movement of metals in a soil profile is in a downward direction. It is possible that evapotranspiration at the soil surface could create a "wicking" effect causing the net movement of metals to be in an upward direction. No evidence of net upward movement of metals has been demonstrated in the Mill Creek area.

45. **Comment:** The Mill Creek residents, biota and soil were negatively impacted by airborne contaminants emitted from Smelter operations during the operation of the Anaconda Smelter (1902-1980). (Public)

Response: EPA agrees.

46. **Comment:** The location of meteorological stations are not clearly defined in Figure 3. (Public)

Response: A figure that clearly shows the location of the meteorological stations in the area has been included in the Final RI/FS.

47. **Comment:** The location of existing meteorological stations do not represent Mill Creek air patterns. A meteorological station should have been installed during the 1984-1986 time period. (Public)

Response: If residents remain in Mill Creek as part of the selected remedy, a meteorological station will be installed to continuously monitor wind speed and direction.

48. Comment: The 10 square miles of highest soil contamination should be plotted on a map. This large area of contaminated soil could be a potential source of future contamination for the Mill Creek area. (Public)

Response: Soil sampling collected during Stage I of the Anaconda Smelter RI/FS and from previous sampling efforts indicate that the soil contamination is extensive. Additional sampling is proposed to further define the nature and extent of this contamination. The selected remedies for the Anaconda Smelter RI/FS will address this potential source of recontamination.

49. Comment: Any reduction in stack emissions due to installation of the baghouse occurred after 1975. (Public)

Response: EPA agrees.

50. Comment: It would be more meaningful to lay people if the content of As, Cd, and Pb in the flue dust was reported in percent. (Public)

Response: EPA agrees. Table 6 in the Final RI/FS has been revised to express the flue dust concentrations of arsenic, cadmium, and lead in percentages, rather than parts per million.

51. Comment: The Federal Primary Drinking Water Standard for As is 0.050 mg/l, not 0.050 ug/l. (Public)

Response: This typographical error has been corrected in the Final RI/FS.

52. Comment: Wells listed in Table 12 should be located on a map in the report. (Public)

Response: Well locations are shown on a map of approximate scale and are referenced in the text and in Table 12 in the Final RI/FS.

53. Comment: Soil sampling should focus on the fine soil fraction (e.g., minus 325 mesh) which is more representative of potential exposure due to airborne dust inhalation and soil ingestion than the total fraction. (Public)

Response: EPA agrees that the fine soil fraction would be more subject to airborne transport than larger fractions and therefore, more likely to be inhaled. Soil sampling methods used by EPA represent the standard procedure for chemical analysis of solid materials such as soils. The analytical results obtained by using fine soil fraction fell within the same range as EPA's data and support EPA findings. For the soil ingestion route, however, ingestion would not be restricted to the fine soil fraction. Therefore, the standard methods used by EPA are more inclusive and appropriate.

54. Comment: Contaminated soils in the area of Mill Creek will act as future sources of airborne and waterborne contamination for the Mill Creek area. (Public)

Response: EPA agrees. Methods of reducing exposure to contaminated soils in the area will be addressed in the Anaconda Smelter RI/FS.

55. Comment: Even though EPA approved fiberglass filters were not used prior to March 1984, these air quality data are usable and should be reported. (Public)

Response: One of the objectives of the RI for Mill Creek is to evaluate the existing and future risk to public health. Air quality data collected since smelter shutdown in 1981 are representative of existing conditions and have been incorporated into the Final RI/FS.

56. Comment: Historic air quality sampling data collected prior to cessation of smelting activities should have been reviewed and analyzed. (Public)

Response: The Mill Creek RI/FS focuses on existing and future risk to public health. Because data collected prior to smelter shutdown are not representative of existing or future conditions, they are not used to evaluate existing or future risk to public health.

57. Comment: A weather station for gathering data on wind speed, wind direction, and measurable precipitation should have been installed along with the Mill Creek Park air sampling station in April, 1984, when a review of the Mill Creek area indicated a potential health problem from arsenic and heavy metals. (Public)

Response: Initially, data collected at other weather stations in the area were thought to be representative of conditions in Mill Creek. Further analysis of data suggested that wind direction and possibly wind speed may be somewhat different in Mill Creek than that at the existing weather stations. Therefore, if residents were to remain in Mill Creek as part of the selected remedy, a meteorological station would be installed to monitor wind speed and direction. It is EPA's opinion that regional precipitation data are representative of conditions in Mill Creek.

58. Comment: The air quality data collected during the Mill Creek Park construction period is a good indicator of air quality that would occur during soil removal and replacement and sodding. It should be presented. (Public)

Response: EPA agrees. These data were used to evaluate potential risk to human health during soil cleanup activities.

59. Comment: The predicted annual increase in soil arsenic concentration appears to be very small compared to annual arsenic deposition that occurred in the past. (Public)

Response: Annual arsenic deposition has decreased significantly since smelter shutdown. However, due to the risk associated with arsenic exposure, one of EPA's goals is to reduce the potential for future recontamination and exposure to the extent possible.

60. Comment: The removal of soil (partial or complete) and the simultaneous protection of the residents' health will be extremely difficult to accomplish. (Public)

Response: It would have been necessary to temporarily relocate the residents if soil cleanup activities were to be conducted in the Mill Creek community. EPA considered a plan to relocate residents only from the areas where active soil cleanup would be underway in order to minimize the period of temporary relocation for the affected residents. Public health concerns were the primary consideration in choosing the selected alternative, permanent relocation of all residents.

61. Comment: The endangerment assessment states that most of the arsenic is in the form of arsenic pentoxide (not arsenic trioxide). (Public)

Response: Determination of the oxidation state of arsenic is difficult. Data indicated that most of the arsenic in smelter emissions and in flue dust is arsenic trioxide. Oxidation of trioxide to arsenic pentoxide may occur in the soil. It appears that both forms are present in the soils in Mill Creek. Both oxidation states of arsenic pose a significant risk to human health.

62. **Comment:** A weather station should be installed in Mill Creek Park. Ambient air sampling and analysis should be continued to define the source and quantity of contaminants entering the area. (Public)

Response: See response to comment #47 in this section.

63. **Comment:** Excavation of 42 inches of material should not be considered if adequate clean borrow material to replace this excavated material is not available. (Public)

Response: If the selected remedy included excavation of 42 inches of material, the Remedial Design would have included an investigation to identify additional sources of clean borrow material.

64. **Comment:** A diversion ditch with sediment traps should be designed and constructed to divert the 100-year precipitation event around the Mill Creek site. (Public)

Response: Considering that the selected alternative is the permanent relocation of all residents of Mill Creek such issues as controlling the transport of contaminated sediments are not addressed in the remedy for this operable unit. Environmental issues may be considered in remedies for other operable units at the Anaconda Smelter NPL.

65. **Comment:** The proposed boundary of the area excavated is unrealistic. An irregular boundary incorporating a buffer zone of 300 to 500 feet away from any homesite should be incorporated. (Public)

Response: The primary objective of the Mill Creek RI/FS is to reduce exposure and resulting risk to arsenic and other contaminants. Effective means for controlling exposure and future recontamination from areas adjacent to homesites was addressed by EPA in the Final RI/FS.

66. Comment: If any Mill Creek homes are to continue as living quarters (on-site or off-site), the interiors of some may have to be gutted and completely refinished if they are to be sufficiently purged of toxic contaminants. Ordinary cleaning of the homes will not be effective. (Public)

Response: Studies conducted by EPA indicated that conventional house cleaning was relatively ineffective in reducing the concentration of contaminants in house dust in Mill Creek. More comprehensive measures such as replacement of ceiling insulation, carpeting, painting of walls, and others were considered in the selection of the preferred alternative.

67. Comment: Why is there an option for soil removal, soil fill, and revegetation on ARCO property under Alternative #12 (page 5-24, paragraph 1)? This doesn't agree with Alternative #12, top of page 5-49. (Public)

Response: Alternative #12 assumes that institutional controls would be ineffective in the future and residents would have ready access to adjacent properties currently owned by ARCO. Under this alternative, soil removal, soil fill, and revegetation on adjacent ARCO property would be implemented to ensure adequate protection of public health.

68. Comment: The cost of installing and/or operating a weather station and air sampling station(s) in the Mill Creek area should be included in the appropriate alternatives. (Public)

Response: These costs will be included for all remedial alternatives where residents would remain in Mill Creek during and following implementation of the selected alternative.

GENERAL INFORMATION

69. Comment: Additional sampling and evaluation of the brick piles located about 1/4 mile SE of the Mill Creek study area and immediately adjacent area should be conducted to determine the level of hazard presented and protective action that should be taken. (Public)

Response: A screening study was conducted in August 1986 to sample and evaluate potential "hot spots" such as the brick piles described above. If these studies or other surveys indicate that these potential "hot spots" pose a potential threat to human health, activities will be undertaken to effectively reduce this potential threat.

4.0 HEALTH ASSESSMENT

Comments provided in the Health Assessment (HA), February 5, 1987, by ATSDR to EPA Region VIII on the evaluation of the April 1986 Mill Creek EA and the draft RI/FS are identified and responded to in the discussion below.

1. Comment: The PHA in the RI does not explicitly indicate whether the sites for soil sampling were selected in a random or stratified random fashion. The risk assessment uses representative soil samples derived from a summation of weighted concentrations. A summation of weighted concentrations is valid only for randomly collected samples. Therefore, the Health Assessment (HA) states that there is not enough information available to evaluate the accuracy of this procedure. (ATSDR)

   Response: Although the soil sampling has not been randomly performed, there is a consistency between soil sampling results conducted by various investigators that provides assurance that the soil contamination levels are representative and descriptive of Mill Creek. Much of the sampling has been conducted in a nonrandom fashion in order to best characterize the soil contamination in yards, gardens, and play areas, i.e., those areas most likely to contribute to exposures to residents.

2. Comment: The RI classifies Mill Creek as suitable for drinking, culinary use, food processing, bathing, swimming, and the growing and propagation of fishes and associated aquatic life. However, the report does not characterize the extent of use of Mill Creek water for these purposes nor does the report state whether use of Mill Creek water for any of these purposes would significantly contribute to the total ingestion of arsenic or cadmium. (ATSDR)

Response: The focused nature of the RI on the contaminated soils of the Mill Creek community precluded extensive characterization of the relative contamination of the stream or of its contribution to the total contaminant exposures at Mill Creek. Such an evaluation may be conducted as part of future remedial efforts involving surface waters in the Anaconda Smelter area, but preliminary studies have indicated that the creek plays a minor role in the exposures of residents to contaminants.

3. Comment: The RI states that the sex-specificity of the carcinogenic potency factor for males leads to an overestimation of the risk. The HA finds this statement dubious, since the risk must be calculated to protect the most sensitive subpopulation and a risk calculated for the population as a whole may fail to protect the male subpopulation adequately. (ATSDR)

   Response: To calculate cancer risks for contaminants that have different carcinogenic potency factors for various subpopulations, the evaluation should be performed so as to protect the most sensitive subpopulation.

4. Comment: The MCL for arsenic was derived without consideration of carcinogenicity, and is currently under revision. Therefore, comparison of calculated excess skin cancer risk from ingestion of arsenic at Mill Creek to a similarly calculated risk for ingestion of water with arsenic at the MCL is questionable. The RI attempts to justify this approach by pointing out that "comparative risk estimates based on regulatory thresholds for noncarcinogenic toxic effects are considered appropriate in the case of arsenic because it is potentially an essential trace element in the human diet." (ATSDR)

   Response: The comparison of total ingested arsenic dose in Mill Creek to the MCL and the proposed MCLG) at Mill Creek as inappropriate. See response to Comment #11 in Section 3.1.2 Toxicology.

In addition, the Risk Assessment Forum has recently concluded that data supporting arsenic as an essential nutritional element are insufficient. See response to Comment #1 in Section 3.1.2 Toxicology.

5. Comment: The HA reasons that the tap-water samples from the 2-day sampling periods, which showed levels above the MCL, are probably not representative of the concentrations in ground water. These samples were taken from older, hand-dug wells, which tend to be wider and more exposed than bored wells; therefore, the elevated contaminant levels in these wells most likely represent surface soil contamination that has fallen into the water sampled. (ATSDR)

   Response: Much of the well water used by Mill Creek residents comes from older, hand-dug wells that are more susceptible to contamination. Therefore, the tap water samples showing elevated levels of contaminants are appropriate for calculating additive exposures. The possible contamination of ground water in the Anaconda Smelter area will be evaluated as part of another operable unit. See pp. A-15 through A-18 of ARARs analysis.

6. Comment: The RI should explicitly state that the contribution of soil contamination to surface water contaminant levels was considered and determined to be noncontributary, since the contribution of soil contamination to surface water contaminant levels subsequent to adverse weather events or flooding is not likely to be significant in a semi-arid region. (ATSDR)

   Response: See response to Comment #23 in Section 3.1.3 Exposure.

7. Comment: Known exposure to drinking water with arsenic levels above the MCL and accompanying elevated urinary arsenic levels do not straightforwardly translate into corresponding abnormalities of peripheral nerve function parameters for the following reasons:

(a) EPA (1986) reported that infants exposed to acutely toxic arsenic doses in powdered milk are susceptible to CNS disorders.

(b) Baker et al. (1977) described the difficulty of extrapolating from chronic arsenic exposure in infants with elevated urinary arsenic concentrations to acute CNS disorders.

(c) Southwick et al. (1983) compared peripheral nerve function parameters of residents in an area with known exposure to arsenic (above the MCL) in drinking water to a control community and found no differences.

(d) Vallentine (1982) showed that most measurements of peripheral nerve function in residents of high arsenic exposure communities were sufficiently different from such measurements in residents of control communities. However, the former were still within the range of normal limits.

(e) Urinary arsenic concentrations for children in Mill Creek were reported in the RI to be within the range of values for Millard, Utah, and high arsenic exposure communities from the U.S. cross-sectional studies. (ATSDR)

Response: See response to Comment #16 in Section 3.1.3 Exposure.

8. Comment: The risk assessment in the RI for inhalation of arsenic showed a lung cancer risk for Mill Creek in excess of that for the control community but less than the risk from exposure to background-level concentrations. It is not made clear in the RI how concentrations that ostensibly represent background can yield a higher risk than risk for a community in which indoor air concentrations are sometimes elevated. (ATSDR)

Response: Levels of arsenic in the air of Mill Creek are above **background.** See response to Comment # 1 in Section 3.1.3 Exposure.

9. **Comment:** The HA concludes that the control community seems to be poorly chosen if it has a calculated excess lung cancer risk from inhalation of cadmium in excess of the risk for Mill Creek. (ATSDR)

   Response: See response to Comment #8 above.

10. **Comment:** In terms of air sampling, the RI did not explicitly state whether sampling adequately represent the effects of possible increases in winds on airborne concentrations, whether such increase was too small to warrant consideration, or whether it was otherwise incorporated into the calculations. (ATSDR)

    Response: Air samplings were taken on set schedules so as to avoid any biases imposed by episodic or periodic changes in wind patterns. Additionally, samplers were operated during different seasons of the year in order to assess seasonal changes in wind patterns.

11. **Comment:** It is not clear how levels ostensibly chosen to represent background, or a community chosen as a control, can have a higher risk from ingestion of cadmium than a community where children from 9 months to 5 years of age are assumed to ingest soil with elevated cadmium concentrations. (ATSDR)

    Response: It is difficult to identify a control Montana community, since many communities in Montana may have higher than normal levels of various contaminants found at smelter sites due to past mining or smelting activities. The calculated risks associated with cadmium ingestion in Mill Creek children would probably be commensurately higher if all potential sources of cadmium ingestion were identified.

12. **Comment:** The statement was made in the RI as to whether such factors as fish ingestion should be considered. (ATSDR)

Response: It was felt that fish ingestion would be a relatively minor source of contaminant exposure to Mill Creek residents, and specific information about ingestion of locally caught fish was not available.

13. Comment: No mention is made of any assessment of exposure to radon daughter that have been found in other communities in the area as an apparent result of the ARCO operation. There is some question whether ARCO actually sampled soil for mercury at Mill Creek. (ATSDR)

Response: See response to Comment #5 in Section 3.1.1 Risk Assessment.

14. Comment: No mention is made of any assessment of exposure to mercury which have been found in other communities in the area as an apparent result of the ARCO operation. (ATSDR)

Response: The focused assessment dealt with the contaminants found in the soils of Mill Creek that were previously documented through various CDC studies of biological samples obtained from residents. To gather radon data would have delayed the process, contributing to increased risks to residents. Additionally, relatively few Mill Creek houses have basements where radon would accumulate to dangerous levels.

15. Comment: The EP dismissed consideration of the toxic effects of zinc and copper as insignificant because, for each, the AWQC is based solely on organoleptic properties (Clement Associates, 1986). The HA states that a review of literature suggests possible significant toxicity from excessive exposure to copper and zinc or from effects of metals in combination (ATSDR). (References are provided in the HA).

Response: See response to Comments #31, 32, 33 in Section 3.1.2 Toxicology.

16. Comment: If alternative 1, "relocation of all residents" were selected, all public health risks would be maximally reduced and no further assessment of "inadequately" addressed questions in the RI report would be necessary. (ATSDR)

Response: EPA has chosen "relocation of all residents" as the selected alternative. However, it is EPA's position that the assessment in the RI/FS was adequate to select the remedial action for the first operable unit and further evaluation may be required prior to selection of the final remedy to address contamination in Mill Creek.

17. Comment: A comprehensive health assessment should be done after the Record of Decision (ROD) is submitted. (ATSDR)

Response: Although additional evaluation may be required, EPA preferred to conduct a health assessment during the RI/FS prior to the ROD in order to help in the remedy selection.

18. Comment: ATSDR agrees with the conclusion that a public health risk exists at Mill Creek if the CAG is valid. (ATSDR)

Response: EPA has reviewed the CAG model and has endorsed it as relevant and appropriate for use in risk assessments. The CAG potency factor has been adjusted based upon the 1986 draft Risk Assessment Forum report. See response to Comment #1 in Section 3.1.2 Toxicology for a more detailed discussion.

19. Comment: The following flaws in the study of Tseng et al. (1968) most likely result in inaccuracy in the calculation of the actual risk:

Flaw 1. Tseng et al. (1968) assumed that arsenic laden well water was the only exposure route for arsenic ingestion in Taiwan. The effects of rice, fish, pest control compounds were not considered.

Flaw 2. Tseng assumed that Taiwan background arsenic exposure was the same as that in the U.S. Later studies show a four or twelve times higher background of blood arsenic in Taiwan than in the U.S. (Heydorn, 1970).

Flaw 3. Racial and nutritional deficiencies between Taiwan and the U.S. were not considered.

Flaw 4. Biovailability of arsenic ingested in soil (Mill Creek) may not be the same as that of arsenic ingested in drinking water (Taiwan). (ATSDR)

Response: Flaw 1. Other sources of arsenic are an uncertainty that cannot be answered definitively because the information is simply not available. This uncertainty has been considered by the Risk Assessment Forum draft report October, 1986. The Forum calculated that the dose-response may have been over-estimated by as much as 30% if a man in the study population ate one cup of dry rice and two pounds of potatoes per day and that the amount of water (arsenic contaminated) required to cook the rice and potatoes was about 1.0 liter. But it must be emphasized that such speculations are not supportable by data, and are, therefore, not adequate for risk assessment purposes.

Flaw 2. The Hevdorn (1970) data are of limited use because of the small sample size (less than 20) and because the sampling protocol is unknown. Without more data or independent verification, it is inappropriate to make the assumption that all Taiwanese have higher background blood arsenic levels than do U.S. residents.

Flaw 3. See response to Comment #2 in Section 3.1.2 Toxicology.

Flaw 4. See response to Comment #12 in Section 3.1.3 Exposure.

20. Comment: Flaws in the EPA risk assessment model for arsenic ingestion are apparently reflected in the discrepancy between expected and observed incidence of skin lesions in U.S. subpopulation in areas which known high drinking water arsenic concentrations. (ATSDR)

Response: None of the proposed populations of U.S. residents exposed to elevated arsenic meet the conditions required to see a statistically significant elevation in skin cancer rates. The background levels of skin cancer are sufficiently high enough in the U.S. that elevations of rates due to arsenic will only be clinically or epiermiologically apparent when: 1) there is a large enough population; 2) there is a high level of exposure over a long period of time; and 3) the population is not mobile. Given the long latency period for skin cancer induced by arsenic, it may take 20 or more years to see the first cases.

5.0 REMAINING CONCERNS

Several concerns have been raised that remained unanswered during the RI/FS period. The Agency's proposed plan to address them is summarized below.

1. Concern: Are there health risks associated with contaminated soil that may have been brought into the City of Anaconda?

   Response: Migration of contaminated soil is one area of concern for EPA. This issue will be addressed under separate operable units at the Anaconda Smelter NPL site.

2. Concern: What are the effects of soil and water contamination on local agricultural units, especially ranchers? What actions will EPA take if contamination is found?

   Response: This issue is not directly related to human health; it is an environmental issue and will have to be addressed under the long-term remedial action. The problems in the Deer Lodge Valley are far-reaching and cannot be resolved quickly. However, soil and water sampling and effects on cattle will be examined during the RI/FS remedial investigation. Possible responses would include clearing the soil of contamination or not allowing grazing cattle in those areas if problems are identified.

   It would be unlikely that ranchers in the valley would be compensated for economic loss associated with livestock loses under Superfund. At other Superfund sites across the country livestock owners have taken up such issues with the party or parties believed to be responsible for creating the contamination problem. Superfund is responsible for cleanup and data collection, but not for compensation to individuals for losses of livestock and crop production. The data that EPA collects are public, however, and could be used by private individuals in pursuit of compensation from other sources. To the extent that money is allocated to Superfund and to the extent that the issues relate to problems of health and the environment, EPA will attempt to address such problems.

APPENDIX A

LIST OF COMMUNITY RELATIONS ACTIVITIES FOR THE MILL CREEK OPERABLE UNIT

1. Established information repositories at the Hearst Free Library and the Metcalf Senior Citizen's Center in Anaconda (October 1984.

2. Provided community relations (CR) assistance to CDC in coordinating urinary arsenic study (July 1985, October 1986).

3. Held public meeting to discuss results of urinary arsenic study (July 9, 1985).

4. Prepared and distributed question-answer fact sheet on Superfund activities related to Mill Creek (December, 1985).

5. Held public meeting on Superfund activities related to Mill Creek. Representatives of EPA, CDC, the City and County of Anaconda - Deer Lodge, the Environmental Advisory Committee (EAC), AMC and its consulting contractor, the Montana Air Quality Bureau, the local media, and the public -- a total of approximately 80 persons (December 10, 1985).

6. Distributed CDC letter to Mill Creek residents regarding house-cleaning (December 22, 1985).

7. Provided assistance during public comment period regarding the EPA administrative order on flue dust (December 1985 0 January 1986).

8. Held public meeting to announce emergency removal actions at Mill Creek (January 13, 1986).

9. Held EAC meeting to discuss removal options (January 28, 1986).

10. Held public meeting to discuss considerations regarding emergency responses; i.e., capping and sodding (March 29, 1986).

11. Held public meeting announcing decision to relocate (May 1, 1986).

12. Developed community Relations plan for the Anaconda Smelter site (May 1986).

13. Held public meeting with the EAC to coordinate FEMA actions (May 29, 1986).

14. Held EAC meeting updating area residents on Mill Creek activities (July 24, 1986).

15. Provided for community relations specialist to attend Mill Creek Resident's Association meeting to listen to concerns and coordinate with EPA and FEMA (September 17, 1986).

16. Developed a Community Relations Plan for the Mill Creek Operable Unit: Supplement to the Community Relations Plan for the Anaconda Smelter Site (October, 1986).

17. Provided for community relations specialist to continue personal contact with Mill Creek residents regarding progress and assistance with concerns and problems. The community relations specialist was available 24 hours a day from April, 1985.

18. Attended monthly or quarterly EAC meetings since early 1984, and preparation of CR summaries since April 1985.

APPENDIX B

LIST OF COMMENTORS

Anaconda - Deer Lodge County, Montana

Arrowhead Apiaries

Aspholn, Audrey, Anaconda Community Relations Specialist

Atlantic Richfield Company

Citizens of Anaconda Montana

- A Concerned Citizen
- Jane B. and Allen P. Dudack
- Edwin J. Hamel
- Kimberly A and Larry D. Hancock
- Timothy L. Harris
- Leslie O. Johnson
- Wennie Johnson
- Helen Meyer
- Richard Meyer
- Sara Weinstock - results of telephone survey

Citizens of Mill Creek, Montana

- Helen and Sylvester Haus

Knight, Dahood, McLeon and Everett - law firm representing Mill Creek Residents, including Floyd C. Bossard and A. David Maughan

Montana Department of Health and Environmental Sciences

Montana Department of Health and Human Services

ATTACHMENT II
STATEMENT OF FINDINGS
FLOODPLAINS AND WETLANDS

Executive Order 11988 requires Federal agencies carrying out their responsibilities to consider the potential effects of their actions on floodplains and wetlands in order to secure the beneficial values of these areas and to minimize the impact of floods on human safety, health, and welfare. The remedial action selected by EPA at Mill Creek, Alternative 1 involves activities located on the floodplain of Mill Creek. This Statement of Findings regarding Floodplains and Wetlands has therefor been prepared in compliance with Executive Orders 11988 and 11990.

Alternative 1, relocation of all Mill Creek residents, involves buyout of all property owners in the town of Mill Creek, demolition of structures, grading of the surface, establishment of vegetation to stabilize the surface, fencing, and posting as an interim remedial measure. Because the structures to be demolished are located within the floodplain, there is no practicable alternative which would not be located in a floodplain. Since the regrading would not affect the surface elevations or contours in the floodplain, flood flow characteristics are not anticipated to be changed within the floodplain of Mill Creek. Establishment of vegetation on the regraded surfaces will minimize potential sedimentation.

The Riparian Woodland/Shrubland vegetation unit described in the Mill Creek Remedial Investigation meets criteria as a wetland. While demolition and regrading work would take place near these areas, no direct disturbance of wetlands is anticipated. Erosion of soils into wetland areas is anticipated to be minimized by the establishment of vegetation.

Compliance with State Floodplain Protection Standards

The State identified the Montana Natural Streambed and Land Preservation Act as a State ARAR (MCA Section 76-5-101 et seq.; ARM Section 36.15.101. et seq.) The purpose of the State Floodway management regulations is to prevent development within the floodplains which could cause a flood hazard or erosion hazard. Since no structures are proposed to be constructed and appropriate erosion control measures will be implemented, the proposed action will be in compliance with the State Floodplain Protection Standards.

ATTACHMENT III
CONFIDENTIAL ENFORCEMENT ANALYSIS

The Atlantic Richfield Company (ARCO) has been identified by EPA as the primary potentially responsible party (PRP) for contamination on and around the Anaconda Smelter site including contamination in Mill Creek, Montana. ARCO conducts its business at this site under the name Anaconda Minerals Company ("Anaconda" or AMC). Anaconda is now a unit of ARCO Coal which is in turn a division of ARCO. A notice letter was sent to ARCO on April 29, 1986 pursuant to 122(e) of CERCLA. Special notice was given September 3, 1987.

A Section 106 administrative order on consent to conduct an RI/FS on the entire smelter site was signed with ARCO on October 22, 1984 (Docket No. CERCLA VIII-84-08). A preliminary endangerment assessment prepared to support this order identified significant skin cancer risks from soil contaminated by arsenic from past smelter emissions. This contaminated soil is found over a several square mile area including the community of Mill Creek. In the course of RI/FS work conducted under the above-referenced order, it was found in July 1985 that soils in Mill Creek were highly contaminated by lead, arsenic, and cadmium.

One of the sources of the contamination in Mill Creek is from fugitive emissions of flue dust off Smelter Hill, which overlooks Mill Creek. Flue dust is the most highly contaminated waste on Smelter Hill. On December 20, 1985 (Docket No. CERCLA VIII-85-09), EPA entered into a second Section 106 administrative order on consent with ARCO to conduct an initial remedial measure. This order required ARCO to inventory flue dust storage piles located on Smelter Hill (immediately west of Mill Creek), temporarily stabilize and maintain the piles, and control fugitive emissions of flue dust during movement or transport.

On April 19, 1986, Robert L. Duprey, Director, Waste Management Division, EPA Region VIII, signed an action memorandum initiating a removal action to temporarily relocate families with children or other sensitive individuals and initiating a road dust suppression program in Mill Creek. On April 29, 1986, a PRP notice letter was sent to ARCO describing its potential liability under subsection 107(a)(3) of CERCLA as a generator of stack and fugitive emissions from the Anaconda Smelter which contaminated Mill Creek and offering ARCO the opportunity to conduct the temporary relocation and road dust suppression programs described in the action memorandum. In a response dated May 2, 1986, ARCO declined the opportunity to conduct the temporary relocation and accepted the opportunity to conduct the road dust suppression program.

On June 9, 1986, EPA entered into a third Section 106 administrative order on consent with ARCO requiring specified road dust suppression measures (Docket No. CERCLA VIII-86-06). In a fund-financed effort, 14 families were temporarily relocated by the Federal Emergency Management Agency (FEMA).

On July 1, 1986, EPA entered into a fourth Section 106 administrative order on consent with ARCO requiring a special, expedited RI/FS addressing Mill Creek alone (Docket NO. CERCLA VIII-86-07). The draft Mill Creek RI/FS was released for public comment in December of 1986 with the public comment period closing on February 4, 1987. EPA received numerous comments from the residents of Mill Creek as well as ARCO. ARCO's comments were voluminous and raised many technical and legal issues. Consistent with their previous position, ARCO continued to dispute all aspects of the EPA risk assessment. EPA has responded to all public comments in the responsiveness summary.

The EPA Office of General Counsel has indicated that the Agency can compel ARCO to conduct a permanent relocation pursuant to Section 106 of CERCLA. Negotiation of a judicial consent decree pursuant to Section 106 is anticipated in the near future. Cost recovery under Section 107 of CERCLA of EPA expenses associated with Mill Creek will be deferred to a later action. If negotiations of a consent decree fail, a fund financed permanent relocation may be preferable to a unilateral judicial action.

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===========================================================================
FILE: 2021601          NUMBER: 100001          DATE: 00/00/00          PAGE  1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #3-A STANDARD OPERATING
               PROCEDURES (ALL APPLICABLE SAMPLES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100002          DATE: 12/00/84          PAGES: 80
TITLE/SUBJECT: REPORT ENTITLED: STANDARD OPERATING PROCEDURES
               DISCUSSION OF (SOPs) TO DESCRIBE PROCEDURES PERFORMED IN THE
               FIELD & LAB. PROCEDURES FOR EACH FIELD TASK HAVE BEEN
               DESCRIBED IN A FIELD OPERATION PLAN (FOP) AND STATES THAT 11
               (FOPs) HAVE BEEN PREPARED FOR THE PROJECT
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
---------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100003          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #3-B - U.S. EPA
               REQUESTED PROCEDURE FOR MILL CREEK TAPWATER (MC-002, MC-019)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100004          DATE: 11/27/85          PAGES: 2
TITLE/SUBJECT: DISCUSSION OF EPA'S REQUEST THAT ANACONDA SAMPLE FIVE
               DOMESTIC WATER WELLS FROM EACH OF THE COMMUNITIES IN CLOS
               PROXIMITY TO THE SMELTER INCLUDING EAST ANACONDA, MILL CREEK
               OPPORTUNITY, & WARM SPRINGS, MONTANA, AND TO CONSIDER THIS
               REQUEST TO CHANGE THE SCOPE OF THE WORK PLAN
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: STEPHENSON, SAM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: MEMO
---------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100005          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #4-A  SOILS FIELD
               OPERATIONS PLAN (ALL SOILS SAMPLES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100006          DATE: 12/00/84          PAGES: 46
TITLE/SUBJECT: REPORT ENTITLED: FINAL - FIELD OPERATIONS PLAN - MASTER
               INVESTIGATION SUBTASK - SOILS
               (INCLUDES A LOCATION LIST OF QA/QC REQUIREMENTS FOR FIELD
               INVESTIGATIONS ON PAGE 18)
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------
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ANACONDA SMELTER SITE
MILL CREEK, MONTANA

ADMINISTRATIVE RECORD INDEX

October 1, 1987

Prepared by

NEIC/
Contract Evidence Audit Team (CEAT)

Prepared for

Rex Callaway

EPA Region VIII
Office of Regional Counsel

This work is being conducted on behalf of the Environmental Protection Agency's (EPA) National Enforcement Investigations Center (NEIC) under EPA contract no. 68-01-7369.

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FILE: 2021601          NUMBER: 100007          DATE: 12/00/84          PAGES: 33
TITLE/SUBJECT: REPORT ENTITLED: LABORATORY ANALYTICAL PROTOCOL
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100008          DATE: 07/00/84          PAGES: 1
TITLE/SUBJECT: COVER SHEET ENTITLED: APPENDIX A  - CONTRACT LABORATORY
               PROGRAM, STATEMENT OF WORK, JULY, 1984
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100009          DATE: 07/00/84          PAGES: 228
TITLE/SUBJECT: REPORT ENTITLED: CONTRACT LABORATORY PROGRAM, STATEMENT OF
               WORK (SOW), INORGANIC ANALYSIS, MULTI-MEDIA, MULTI-
               CONCENTRATION. BASED ON: CAUCUS INORGANICS PROTOCOL
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100010          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #5-A - LABORATORY
               ANALYTICAL PROTOCOL (ALL SAMPLES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100011          DATE: 00/00/00          PAGES: 47
TITLE/SUBJECT: APPENDICES B THROUGH L. FOR DOCUMENT #100007 LABORATORY
               ANALYTICAL PROTOCOL, TABLE OF CONTENTS FOR DOCUMENT #100007
               LISTS TITLES OF EACH APPENDICES
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100012          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #5-B - CHANGES TO LAP
               (ALL SAMPLES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
----------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100013          DATE: 01/29/85          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF CLARIFICATIONS AND CHANGES TO THE LABORATORY
               ANALYTICAL PROTOCOL FOR THE ANACONDA SMELTER RI/FS
       AUTHOR: BAILEY, ANN K.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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=================================================================================
FILE: 2021601          NUMBER: 100014          DATE: 01/00/85          PAGES: 3
TITLE/SUBJECT: ANACONDA SMELTER RI/FS LABORATORY ANALYTICAL PROTOCOL
               AMENDMENT TO DOCUMENT CONTROL NO. TTB-030FO
               (CLARIFICATIONS AND CHANGES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100015          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #4-B - GROUNDWATER
               FIELD OPERATIONS PLAN (ALL APPLICABLE SAMPLES)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100016          DATE: 04/00/85          PAGES: 89
TITLE/SUBJECT: REPORT ENTITLED: FINAL - FIELD OPERATIONS PLAN - MASTER
               INVESTIGATION SUBTASK - GROUNDWATER SAMPLING
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100017          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: YELLOW COVER SHEET ENTITLED: SECTION #6-B - HEALTH EFFECTS
               SOILS INVESTIGATION DATA REPORT (SO-012)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100018          DATE: 07/00/85          PAGES: 35
TITLE/SUBJECT: REPORT ENTITLED: HEALTH EFFECTS - SOILS INVESTIGATION DATA
               REPORT
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100019          DATE: 08/00/86          PAGES: 20
TITLE/SUBJECT: REPORT ENTITLED: QUALITY ASSURANCE PROCEDURES
       AUTHOR: NOT INDICATED
 ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
---------------------------------------------------------------------------------

FILE: 2021601          NUMBER: 100020          DATE: 12/05/84          PAGES: 22
TITLE/SUBJECT: LABORATORY NOTEBOOK ASSIGNED TO GRETCHEN RUPP
       AUTHOR: RUPP, GRETCHEN
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021601            NUMBER: 100021          DATE: 00/00/00           PAGES: 1
TITLE/SUBJECT: COVER SHEET APPENDIX D - DEEP TILL PILOT STUDY
               (MARGINALIA: ANACONDA/MILL CREEK RI REPORT)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------------------

FILE: 2021601            NUMBER: 100022          DATE: 09/00/86           PAGES: 16
TITLE/SUBJECT: REPORT ENTITLED: MILL CREEK RI/FS TECHNICAL MEMORANDUM NO.5
               DEEP TILL PILOT STUDY
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------------------

FILE: 2021601            NUMBER: 100023          DATE: 00/00/00           PAGES: 1
TITLE/SUBJECT: COVER SHEET ENTITLED: APPENDIX E - SOIL COLUMN LEACH BENCH
               TEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------------------

FILE: 2021601            NUMBER: 100024          DATE: 09/00/86           PAGES: 21
TITLE/SUBJECT: REPORT ENTITLED: MILL CREEK RI/FS TECHNICAL MEMORANDUM NO.6
               SOIL COLUMN LEACH BENCH TEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------------------

FILE: 2021601            NUMBER: 100025          DATE: 03/07/86           PAGES: 6
TITLE/SUBJECT: DISCUSSION OF TAT MEMBERS PERFORMING QUANITATIVE ANALYSIS
               ON SOIL SAMPLES COLLECTED IN MILL CREEK MONTANA UTILIZING
               AN X-MET 840 PORTABLE X-RAY FLUORESENCE ANALYZER IN A LAB
               AT BUTTE ON 2/18/86 - 2/21/86, ALSO DISCUSSES SAMPLING EVENT
               #2 & #3,LAB Q/A,AND SAMPLE CUSTODY AND TRACKING
       AUTHOR: STEVENSON, PETER
 ORGANIZATION: TECHNICAL ASSISTANCE TEAM (TAT) REGION VIII
    ADDRESSEE: NICHOLS, FLOYD D.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------------------

FILE: 2021603            NUMBER: 100014          DATE: 07/00/87           PAGES: 440
TITLE/SUBJECT: "DATA UTILIZATION, MILL CREEK, MONTANA - ANACONDA SMELTER
               SITE, ANACONDA, MONTANA" (CONTAINS APPENDICES A THROUGH F)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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III-101

FILE: 2021605 NUMBER: 100002 DATE: 09/30/86 PA[illegible] 3
TITLE/SUBJECT: LISTING THE CIRCUMSTANCES BEYOND REASONABLE CONTROL OF ANACONDA WHICH RESULTED IN THE SUBMISSION OF THE DATA VALIDATION ON SEPTEMBER 19, AND A REQUEST TO NOT BE PENALIZED FOR THE DELAY.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021605 NUMBER: 100003 DATE: 09/24/86 PAGES: 2
TITLE/SUBJECT: REGARDING THE CHRONOLOGY OF EVENTS RELATING TO THE DATA VALIDATION OF NEW DATA GENERATED AND REANALYSIS REQUIRED FOR THE MILL CREEK RI/FS.
AUTHOR: LYTLE, CHARLES R.
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021606 NUMBER: 100001 DATE: 09/11/86 PAGES: 1
TITLE/SUBJECT: DISCUSSES THE 16 SOIL PROFILES OBTAINED AT MILL CREEK APPEARING TO BE SUFFICIENT TO DETERMINE A DEPTH OF REMOVAL FOR THE PURPOSES OF A FEASIBILITY STUDY. ALSO DISCUSSES DIFFERENT ACTION LEVELS FOR DEPTH OF REMOVAL (INTERNAL DOCUMENT CONTROL NO. 228-TS1-EP-DFWH-1)
AUTHOR: SULLIVAN, JEFF
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021606 NUMBER: 100002 DATE: 09/11/86 PAGE[illegible]
TITLE/SUBJECT: DISCUSSES THE 16 SOIL PROFILES OBTAINED AT THE MILL CREE[illegible] SITE APPEARING TO BE SUFFICIENT TO DETERMINE DEPTH OF REMOVAL FOR THE PURPOSES OF A FEASIBILITY STUDY. ALSO DISCUSSES DIFFERENT ACTION LEVELS FOR DEPTH OF REMOVAL. (INTERNAL DOCUMENT CONTROL NO. 228-TS1-EP-DFWH-1)
AUTHOR: SULLIVAN, JEFF
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021606 NUMBER: 100003 DATE: 12/15/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF TWO DOCUMENTS DISCUSSING THE ADEQUACY OF THE MILL CREEK SOIL PROFILES. DOCUMENT PROVIDES CONCLUSIONS FOR BOTH DOCUMENTS TRANSMITTED. (INTERNAL DOCUMENT CONTROL NO. 228-TS1-EP-DSGW-1)
AUTHOR: SULLIVAN, JEFF
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021606 NUMBER: 100004 DATE: 12/15/86E PAGES: 6
TITLE/SUBJECT: REPORT ON "ANALYSIS OF SPLIT SAMPLES" DOCUMENT ANALYZES DATA SPLITS TO ASSESS WHETHER THE TETRA TECH SOIL PROFILE DATA, CURRENTLY CLASSIFIED AS ESTIMATES, CAN BE UTILIZED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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==============================================================================
FILE: 2021606          NUMBER: 100004A          DATE: 12/15/86          PAGES: 8
TITLE/SUBJECT: REPORT ON "ASSESSMENT OF DATA ADEQUACY"
               DOCUMENT ANALYZES THE ADEQUACY OF EXISTING DATA TO
               DETERMINE IF SUFFICIENT DATA ARE AVAILABLE TO ACCURATELY
               COST THE SOIL REMOVAL REMEDIAL ALTERNATIVE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------

FILE: 2021606          NUMBER: 100005           DATE: 00/00/00          PAGES: 17
TITLE/SUBJECT: ATTACHMENT - DISCUSSION OF THE VARIOGRAM AND KRIGING
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------

FILE: 2021607          NUMBER: 100001           DATE: 10/17/85          PAGES: 2
TITLE/SUBJECT: BRIEF DESCRIPTION OF THE METHODS AND RESULTS OF THE X-MET
               840 XRF ANALYZER CALIBRATION FOR ANACONDA SOIL SAMPLES.
               (INTERNAL DOCUMENT NO. 228-TS1-EP-BUVM-1)
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------

FILE: 2021607          NUMBER: 100002           DATE: 10/22/85          PAGES: 1
TITLE/SUBJECT: RESULTS OF SIX ANACONDA SOIL SAMPLES SENT WITH THE X-MET 840
               USING THE CURRENT CALIBRATION. THE SAMPLES WERE ANALYZED TO
               CHECK THE ACCURACY OF THE X-MET 840.
               (INTERNAL DOCUMENT NO. 228-TS1-EP-BVDF-1)
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------

FILE: 2021607          NUMBER: 100003           DATE: 03/17/86          PAGES: 4
TITLE/SUBJECT: SUMMARY OF ALL RESULTS TO DATE OF THE ANACONDA SOIL SAMPLES
               ANALYZED WITH THE X-MET 840 XRF ANALYZER
               (INTERNAL DOCUMENT NO. 228-TS1-EP-CHLH-1)
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021607          NUMBER: 100004           DATE: 03/17/86          PAGES: 4
TITLE/SUBJECT: SUMMARY OF ALL RESULTS TO DATE OF THE ANACONDA SOIL SAMPLES
               ANALYZED WITH THE X-MET 840 XRF ANALYZER
               (INTERNAL DOCUMENT NO. 228-TS1-EP-CHLH-1)
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021607 NUMBER: 100004A DATE: 03/17/86 PAGES: 4
TITLE/SUBJECT: SUMMARY OF ALL RESULTS TO DATE OF THE ANACONDA SOIL SAMPLES ANALYZED WITH THE X-MET 840 XRF ANALYZER (INTERNAL DOCUMENT NO. 228-TS1-EP-CHLH-1)
AUTHOR: CHAPPELL, RICK
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021607 NUMBER: 100005 DATE: 07/09/86 PAGES: 13
TITLE/SUBJECT: DISCUSSION OF XRF ANALYSIS OF MILL CREEK SOIL SAMPLES AND QA/QC RESULTS (INTERNAL DOCUMENT NO. 228-TS1-EP-CYCA-1) DOCUMENT INCLUDES FIG.S 1-4 (GRAPHS)
AUTHOR: CHAPPELL, RICK
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: HILLMAN, JUANITA
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO

FILE: 2021607 NUMBER: 100006 DATE: 07/14/86 PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF XRF ANALYSES OF MILL CREEK SOIL SAMPLES; DEEP TILLING PHASE 2. SAMPLES WERE ANALYZED DURING THE PERIOD 7/7 TO 7/11. DOCUMENT INCLUDES LIST WITH SAMPLE ID AND ASSOCIATED VALUE FOR 4 METALS
AUTHOR: CHAPPELL, RICK
ORGANIZATION: NOT INDICATED
ADDRESSEE: ERICKSON, JIM
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021607 NUMBER: 100007 DATE: 08/20/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF TETRA TECH'S MILL CREEK RI/FS TECHNICAL MEMORANDUM NO. 3, AND DISCUSSION OF THE REJECTION OF XFR DATA
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021607 NUMBER: 100008 DATE: 08/00/86 PAGES: 22
TITLE/SUBJECT: REPORT ENTITLED: MILL CREEK RI/FS TECHNICAL MEMORANDUM NO. 3 ASSESSMENT OF X-RAY FLUORESCENCE SOIL DATA
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021607 NUMBER: 100009 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: COVER SHEET ENTITLED: APPENDIX A QA/QC MEMORANDA FOR XRF DATA SET (WITTENHAGEN 1986; CHAPPELL 1986A, 1986B)
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

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FILE: 2021607        NUMBER: 100010          DATE: 05/23/86              PAGES: 4
TITLE/SUBJECT: DISCUSSION OF SAMPLING ACTIVITIES CONDUCTED AT MILL CREEK
               MONTANA, INCLUDES SUMMARIES OF THREE SAMPLING EVENTS.
               SAMPLES WERE ANALYZED USING THE X-MET 840 FLOURESCENCE
               SPECTROPHOTOMETER
       AUTHOR: WHITTENHAGEN, DIANE K.
 ORGANIZATION: TECHNICAL ASSISTANCE TEAM (TAT) REGION VIII
    ADDRESSEE: NICHOLS, FLOYD D.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021607        NUMBER: 100010A         DATE: 06/11/86              PAGES: 3
TITLE/SUBJECT: DISCUSSION OF MILL CREEK SAMPLE SELECTION FOR CLP METALS
               ANALYSIS
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: ERICKSON, JIM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021607        NUMBER: 100011          DATE: 07/09/86              PAGES: 12
TITLE/SUBJECT: DISCUSSION OF XRF ANALYSIS OF MILL CREEK SOIL SAMPLES AND
               QA/QC RESULTS, ALONG WITH A BRIEF SUMMARY OF THE SAMPLE
               PREPARATION, AND CALIBRATION, DOCUMENT INCLUDES FIG.S 1-4
               (GRAPHS).
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: HILLMAN, JUANITA
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021607        NUMBER: 100012          DATE: 00/00/86              PAGES: 12
TITLE/SUBJECT: APPENDIX B - EVALUATION OF CDM'S X-MET ANALYSIS OF MILL
               CREEK SOIL SAMPLES AND QA/QC RESULTS (GRIEB 1986)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608        NUMBER: 100001          DATE: 11/24/86              PAGES: 1
TITLE/SUBJECT: REGARDING THE CHAIN-OF-CUSTODY OF THE SAMPLES COLLECTED BY
               THE WESTON TECHNICAL ASSISTANCE TEAM IN MILL CREEK, MONTANA.
       AUTHOR: ALMQUIST, GERALD L.
 ORGANIZATION: ROY F. WESTON, INC./SPER
    ADDRESSEE: CHEATHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: MEMO
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FILE: 2021608        NUMBER: 100002          DATE: 00/00/00              PAGES: 3
TITLE/SUBJECT: A LIST OF SAMPLE NUMBERS, DATE COLLECTED, AND THE DATE
               RELEASED TO CDM. (DATE COLLECTED--RANGING FROM 2/17/86 TO
               4/24/86; DATE RELEASED--4/30/86 AND 5/5/86)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES
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FILE: 2021608 NUMBER: 100003 DATE: 05/23/86 PAGES: 4
TITLE/SUBJECT: SUMMARY OF SAMPLING ACTIVITIES CONDUCTED AT MILL CREEK, DE
LODGE COUNTY, MONTANA BETWEEN FEBRUARY 17, 1986 AND
APRIL 24, 1986. CASE # M85643.
AUTHOR: WHITTENHAGEN, DIANE K.
ORGANIZATION: TECHNICAL ASSISTANCE TEAM (TAT) REGION VIII
ADDRESSEE: NICHOLS, FLOYD D.
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO

FILE: 2021608 NUMBER: 100004 DATE: 09/01/86E PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF AN ANACONDA COPPER COMPANY WATER QUALITY
REPORT AND MILL CREEK TAP WATER ANALYTICAL RESULTS.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: LOWE, MIKE
ORGANIZATION: CLEMENT & ASSOCIATES, INC.
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021608 NUMBER: 100005 DATE: 04/24/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A COPY OF MILL CREEK TAP WATER ANALYSES.
(NOT ATTACHED)
AUTHOR: ASHENBERG, DANIEL
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021608 NUMBER: 100006 DATE: 04/24/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF ANALYTICAL RESULTS AND INFORMATION COLLECTED
BY CDM AT MILL CREEK, MONTANA WHICH WAS REQUESTED BY THE
EPA.
AUTHOR: ASHENBERG, DANIEL
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021608 NUMBER: 100007 DATE: 00/00/00 PAGES: 6
TITLE/SUBJECT: "TABLE 1 -- MILL CREEK TAP WATER ANALYTICAL RESULTS,"
"FIGURE 2 -- MILL CREEK TAP WATER SAMPLING LOCATIONS," (MAP)
AND "WATER SUPPLY QUALITY CONTROL SAMPLES -- TRUE VALUES."
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100008 DATE: 03/13/87 PAGES: 1
TITLE/SUBJECT: SUBJECT: SAS REQUEST FOR ANACONDA/MILL CREEK.
AUTHOR: BERNING, WILLIAM
ORGANIZATION: CCJM
ADDRESSEE: AUSSERER, PAULA
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

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                          ANACONDA SMELTER SITE
                     MILL CREEK, MONTANA OPERABLE UNIT
10/01/87                ADMINISTRATIVE RECORD INDEX                  Page: 1
==============================================================================
 ILE: 2021608         NUMBER: 100009         DATE: 03/13/87         PAGES: 7
TITLE/SUBJECT: A COMPLETED SPECIAL ANALYTICAL SERVICES (SAS) CLIENT REQUEST
               FORM FOR THE ANACONDA SMELTER #18 SITE.  INDICATES TYPES OF
               ANALYSIS TO BE PERFORMED, PURPOSE OF ANALYSIS, ANALYTICAL
               PROTOCOL TO BE USED, SPECIAL TECHNICAL INSTRUCTION, ETC.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021608         NUMBER: 100010         DATE: 03/24/87         PAGES: 1
TITLE/SUBJECT: "SUPERFUND ACCESS AGREEMENT"--AGREEING TO ALLOW THE EPA
               EMPLOYEES AND CONTRACTORS ACCESS TO AND TO PERFORM
               INVESTIGATIONS AUTHORIZED UNDER CERCLA UPON THE
               ABOVE-DESCRIBED PROPERTY AS DESCRIBED IN THE ATTACHED LIST.
       AUTHOR: DAYTON, RAY J.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
    ANIZATION: NOT INDICATED
      ENT TYPE: CONTRACT
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      2021608         NUMBER: 100011         DATE: 00/00/00         PAGES: 4
      SUBJECT: A LIST OF THIRTY NAMES AND ADDRESSES OF PROPERTY OWNERS.
       AUTHOR: NOT INDICATED
      IZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021608         NUMBER: 100011A        DATE: 03/24/87E        PAGES: 15
TITLE/SUBJECT: CHAIN OF CUSTODY RECORDS--DOCUMENTATION OF SAMPLES TAKEN
               OF TAP WATER FOR THE ANAONDA/MILL CREEK PROJECT, PROJECT
               NO. 228.  ALL SAMPLES WERE TAKEN ON 3/24/87, EXCEPT FOR ONE
               WHICH WAS TAKEN ON 3/25/87.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021608         NUMBER: 100012         DATE: 03/26/87         PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF TWENTY THREE SAS 2655 H SAMPLES INCLUDING
               TWO EXTRA VOLUME SAMPLES FOR LAB QA/QC, AND INSTRUCTIONS TO
               RETURN THE YELLOW EPA COC AND THE COOLER TO CDM.
       AUTHOR: ASHENBERG, DANIEL
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: HUTCHINSON, KATHY
 ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
DOCUMENT TYPE: LETTER
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FILE: 2021608         NUMBER: 100013         DATE: 3/24/87E         PAGES: 4
TITLE/SUBJECT: CHAIN OF CUSTODY RECORDS (2) AND SPECIAL ANALYTICAL SERVICE
               (SAS) PACKING LIST (2) DOCUMENTING SAMPLES TAKEN FROM THE
               ANACONDA SITE ON 3/24/87 TO 3/25/87.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021608 NUMBER: 100014 DATE: 03/26/87 PAGE
TITLE/SUBJECT: FEDERAL EXPRESS AIRBILL INDICATING A PACKAGE WAS SENT TO KATHY HUTCHINSON OF ROCKY MOUNTAIN ANALYTICAL.
AUTHOR: ASHENBERG, DANIEL
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: HUTCHINSON, KATHY
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021608 NUMBER: 100014A DATE: 03/24/87 PAGES: 8
TITLE/SUBJECT: COPIES OF PAGES FROM A FIELD BOOK INDICATING SAMPLING DATE, TIME, HOUSE NUMBER, NAME, AND SAMPLE IDENTIFICATION, AND A LIST OF THE SAMPLE ID#, TAG #, BOTTLE LOT #, SAS #, COC #, AND REMARKS.
AUTHOR: ASHENBERG, DANIEL
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021608 NUMBER: 100015 DATE: 03/27/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF DRINKING WATER SPLIT SAMPLES THAT WERE COLLECTED AT RESIDENCES IN MILL CREEK BY CAMP DRESSER & MCKEE, INC. ON 3/24/87 AND 3/25/87, AND A LIST OF SAMPLE IDENTIFICATION NUMBERS, RESIDENT'S NAMES, SAMPLE LOCATION MAP, AND CHAIN OF CUSTODY FORMS. (UNSIGNED)
AUTHOR: ASHENBERG, DANIEL
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: DOLE, STEPHEN E.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021608 NUMBER: 100016 DATE: 00/00/00 PAGE
TITLE/SUBJECT: A LIST OF HOUSE NUMBERS, RESIDENTS, COMMENTS, AND THE SAMPLE ID NUMBER, AND A MAP OF THE TAP WATER SAMPLING LOCATIONS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021608 NUMBER: 100016A DATE: 03/24/87E PAGES: 2
TITLE/SUBJECT: CHAIN OF CUSTODY RECORDS--DOCUMENTATION OF UNFILTERED AND ACIDIFIED (WITH HNO3) SAMPLES TAKEN FOR THE ANACONDA/MILL CREEK PROJECT, PROJECT NO. 228.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021608 NUMBER: 100017 DATE: 03/27/87 PAGES: 1
TITLE/SUBJECT: FEDERAL EXPRESS AIRBILL -- INDICATING A PACKAGE WAS SENT TO MR. STEVE DOLE OF THE ANACONDA MINERALS COMPANY BY CDM.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

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FILE: 2021608          NUMBER: 100017A         DATE: 03/27/87E          PAGES: 2
TITLE/SUBJECT: CHAIN OF CUSTODY RECORD--INDICATION THAT SPLIT SAMPLES WERE
               RECEIVED ON 4/3/87 AND THE COC RECORD WAS SIGNED BY A
               "STEVE VINCENT"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021608          NUMBER: 100018          DATE: 04/20/87           PAGES: 5
TITLE/SUBJECT: SAS -- SUMMARY OF INORGANIC DATA QUALITY ASSURANCE REVIEW --
               REGION VIII:  QC REPORT NUMBER 56786--INDICATING DATA ARE
               ACCEPTABLE FOR USE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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 ILE: 2021608          NUMBER: 100019          DATE: 04/14/87           PAGES: 20
 ITLE/SUBJECT: INORGANIC ANALYSIS DATA SHEETS - QC REPORT NUMBER 56785;
               INDICATING ELEMENTS IDENTIFIED AND MEASURED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100020          DATE: 04/20/87           PAGES: 5
TITLE/SUBJECT: SAS -- SUMMARY OF INORGANIC DATA QUALITY ASSURANCE REVIEW --
               REGION VIII:  QC REPORT NUMBER 56786--INDICATING DATA ARE
               ACCEPTABLE FOR USE WITH QUALIFICATIONS NOTED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100021          DATE: 04/14/87           PAGES: 3
TITLE/SUBJECT: INORGANIC ANALYSIS DATA SHEETS - QC REPORT NUMBER 56786;
               INDICATING ELEMENTS IDENTIFIED AND MEASURED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100022          DATE: 04/09/87           PAGES: 27
TITLE/SUBJECT: INORGANIC ANALYSIS DATA PACKAGE --QC REPORT NUMBER 56786:
               INCLUDES COVER PAGE, NARRATIVE, ANALYSIS DATA SHEETS AND
               RESULTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608 NUMBER: 100023 DATE: 04/09/87 PAGES: 52
TITLE/SUBJECT: INORGANIC ANALYSIS DATA PACKAGE -- QC REPORT NUMBER 56785 INCLUDES COVER PAGE, ANALYSIS DATA SHEETS, AND RESULTS.
AUTHOR: NOT INDICATED
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100024 DATE: 07/09/86 PAGES: 2
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF MILL CREEK, MONTANA"--COVER SHEET AND TABLE OF CONTENTS.
AUTHOR: NOT INDICATED
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100025 DATE: 05/23/86 PAGES: 3
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF MILL CREEK, MONTANA"--SECTION 1.0--INTRODUCTION AND TABLE 1 WHICH LISTS THE MILL CREEK SURVEY DATA WHICH ARE PRESENTLY AVAILABLE.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100026 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF MILL CREEK, MONTANA"--SECTION 2.0--(SECTION DIVIDER) WESTON-SPER (TAT): YARD SOIL SAMPLES AND SOIL PROFILE ANALYSES.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100026A DATE: 00/00/00 PAGES: 28
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF MILL CREEK, MONTANA"--SECTION 2.0--WESTON-SPER (TAT) YARD SOIL SAMPLES ANALYSIS DATA (IN ALPHABETICAL ORDER BY RESIDENT)
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021608 NUMBER: 100027 DATE: 06/04/86 PAGES: 1
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF MILL CREEK, MONTANA"--SECTION 2.0--TRANSMITTAL OF THE PRELIMINARY RESULTS OF SOIL PROFILE ANALYSES, DESCRIPTION OF SAMPLING DEPTHS, AND SAMPLING LOCATION MAP OF THE COMMUNITY OF MILL CREEK.
AUTHOR: ERICSON, JAMES W.
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: DOLE, STEPHEN E.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

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FILE: 2021608          NUMBER: 100028          DATE: 06/04/86         PAGES: 8
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 2.0--TRANSMITTAL OF THE
               ANALYTICAL RESULTS OF XRF ANALYSES OF SOIL SAMPLES COLLECTED
               BY ROY F. WESTON PERSONNEL AT THE MILL CREEK, MONTANA SITE.
               (ALONG WITH SAMPLING LOCATIONS MAPS)
       AUTHOR: CHAPPELL, RICK
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: ERICSON, JIM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021608          NUMBER: 100029          DATE: 00/00/00         PAGES: 1
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--(SECTION DIVIDER)
               E & E SAMPLES:  INDOOR PERSONAL AIR, INDOOR STATIONARY AIR,
               VACUUMED FLOOR DUST, AND YARD SOIL.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
   GANIZATION: NOT INDICATED
    JMENT TYPE: REPORT/STUDY
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    : 2021608          NUMBER: 100030          DATE: 05/15/86         PAGES: 5
T.  .E/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--TRANSMITTAL OF A COPY OF
               THE AIR SAMPLING DATA PACKAGE FOR THE ANACONDA PROJECT, AND
               THE TABULATED DATA FOR AIR, SOIL, AND VACUUM SAMPLES WHICH
               CONTAIN SAMPLE NUMBERS AND TRAFFIC REPORT NUMBERS.
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: ERICKSON, JIM
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021608          NUMBER: 100031          DATE: 08/23/85E        PAGES: 103
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--REPORT OF SAMPLING
               ACTIVITIES FOR RESIDENTIAL SOIL AND DUST SAMPLING IN
               ANACONDA, MONTANA AND SURROUNDING COMMUNITIES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: SCHWAB, KEITH
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100032          DATE: 09/04/85         PAGES: 8
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--SUMMARY OF SOIL SAMPLING
               AND RESULTS OF SAMPLES TAKEN FROM FIVE HOMES IN THE MILL
               CREEK AREA SOUTHEAST OF ANACONDA.
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100033          DATE: 08/29/85          PAGE[illegible]9
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--TECHNICAL MEMORANDUM:
               ANALYTICAL RESULTS, RESIDENCE DESCRIPTION AND A DISCUSSION
               OF SAMPLING EVENTS OF SOIL SAMPLES TAKEN IN JULY AND AUGUST,
               1985, AND ANALYZED FOR ARSENIC AT AMC'S LABORATORY IN BUTTE.
        AUTHOR: SCHMIDT, CAROLE
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
 DOCUMENT TYPE: MEMO
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FILE: 2021608          NUMBER: 100034          DATE: 03/10/86          PAGES: 63
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 3.0--ANALYTICAL RESULTS FOR
               RESIDENTIAL DUST AND SOIL SAMPLING IN ANACONDA, MONTANA
               AND SURROUNDING COMMUNITIES.
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: SCHWAB, KEITH
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100035          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--(SECTION DIVIDER)
               CDC:  CHILDREN'S URINE SAMPLES.
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100036          DATE: 00/00/00          PAGE[illegible]4
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--REPORT ON THE MARCH 1985
               ANACONDA, MONTANA URINARY ARSENIC SURVEY.
        AUTHOR: BINDER, SUE (M.D.)
  ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100037          DATE: 10/31/85E         PAGES: 29
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--ANACONDA, MONTANA JULY
               1985 ARSENIC STUDY.
        AUTHOR: BINDER, SUE (M.D.)
  ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100038          DATE: 03/04/86          PAGES: 1
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--ADDENDUM TO THE JULY
               URINARY ARSENIC SURVEY:  MILL CREEK FOLLOWUP.
        AUTHOR: BINDER, SUE (M.D.)
  ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
     ADDRESSEE: MARGOLIS, STEPHEN (Ph.D.)
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MEMO
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FILE: 2021608          NUMBER: 100039          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--TABLE 1. URINARY ARSENIC
               LEVELS (UG/1) OF MILL CREEK CHILDREN, BY DATE OF COLLECTION,
               AND TABLE 2. URINARY ARSENIC LEVELS (UG/1) OF MILL CREEK
               CHILDREN BETWEEN JULY 22 AND NOVEMBER 4, 1985, BY CHILD.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
-------------------------------------------------------------------------------

FILE: 2021608          NUMBER: 100040          DATE: 04/07/86          PAGES: 6
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 4.0--ANALYSIS OF THE
               RELATIONSHIP BETWEEN THE URINARY ARSENIC LEVELS MEASURED IN
               MARCH AND THE ENVIRONMENTAL ARSENIC LEVELS MEASURED IN MAY.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: FALK, HENRY (M.D.)
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021608          NUMBER: 100041          DATE: 00/00/00          PAGES: 30
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"--SECTION 5.0--STATE OF MONTANA:
               HI-VOL AIR QUALITY SAMPLES (COMPUTER-GENERATED DATA)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100042          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--COVER SHEET AND TABLE OF
               CONTENTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100043          DATE: 09/04/85E         PAGES: 87
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA.AC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 1.0--INDOOR AIR
               QA REVIEW (E&E):  QC REPORT NUMBERS 5988 AND 5989.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608          NUMBER: 100044          DATE: 10/30/85E         PAGES: 216
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 2.0--VACUUM DUST QA
               REVIEW (E&E).
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608           NUMBER: 100045          DATE: 07/23/85E         PAGES: 15
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREE
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 3.0--YARD SOIL
               REVIEW (E&E): QC REPORT NUMBERS 5951, 5950, AND 5949.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608           NUMBER: 100046          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 4.0--(SECTION
               DIVIDER) CDC URINARY ARSENIC DATA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608           NUMBER: 100047          DATE: 06/02/86E         PAGES: 11
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOE MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 4.0--DESCRIPTION
               OF THE HANDLING OF THE URINE SPECIMENS COLLECTED AS PART OF
               THE CDC SURVEYS HELD IN MARCH AND JULY OF 1985, AND A COPY
               OF THE ANALYSIS RESULTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: MCGEEHIN, MICHAEL
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021608           NUMBER: 100048          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 5.0--(SECTION
               DIVIDER) SURFACE AND PROFILE SOIL SAMPLES (WESTON)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608           NUMBER: 100049          DATE: 6/26/86E          PAGES: 17
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 5.0--SURFACE AND
               PROFILE SOIL SAMPLES (WESTON): QC REPORT NUMBERS 2295H-1,
               AND 2295H-2.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608           NUMBER: 100050          DATE: 06/27/86E         PAGES: 14
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 3 - QA/QC DATA"--SECTION 5.0--SURFACE AND
               PROFILE SOIL SAMPLES (WESTON): QC REPORT NUMBER 2295H-3.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608            NUMBER: 100051          DATE: 00/00/00           PAGES: 1
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 6.0--(SECTION
               DIVIDER) HI-VOL AIR DATA (STATE OF MONTANA)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608            NUMBER: 100052          DATE: 08/11/82E          PAGES: 16
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 6.0--AMBIENT AIR
               MONITORING PLAN FOR DEER LODGE VALLEY WHICH WAS DESIGNED TO
               GENERATE ADDITIONAL DATA TO DEFINE THE CURRENT AIR QUALITY
               STATUS FOR TOTAL SUSPENDED PARTICLES AND INHALIBLE PARTICLES
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021608            NUMBER: 100053          DATE: 05/22/86           PAGES: 1
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 6.0--REGARDING THE
               PRECISION/ACCURACY/QA FOR ANACONDA AREA STATE SITES, 1981
               TO PRESENT--THE DATA FROM THESE SITES HAVE MET ALL OF THE
               STATE-EPA QA REQUIREMENTS FOR ACCURACY.
       AUTHOR: RAISCH, BOB
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: RUBICH, MIKE
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021608            NUMBER: 100054          DATE: 05/21/86           PAGES: 3
TITLE/SUBJECT: "COMPILATION OF EPA DATA AND RELATED QA/QC FOR MILL CREEK,
               MONTANA--VOLUME 2 - QA/QC DATA"--SECTION 6.0--REGARDING THE
               PRECISION/ACCURACY/QA FOR ANACONDA AREA STATE SITES 1981 TO
               PRESENT--THERE IS NO PRECISION DATA AVAILABLE SPECIFICALLY
               FOR THE AREA; PRECISION FOR THE STATE IS LISTED.
       AUTHOR: SCHNEIDER, JERRY
 ORGANIZATION: STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
    ADDRESSEE: RAISCH, BOB
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
---------------------------------------------------------------------------------

FILE: 2021609            NUMBER: 100001          DATE: 12/00/85           PAGES: 25
TITLE/SUBJECT: ASSEMBLAGE OF AVAILABLE DATA ON METALS CONCENTRATIONS IN
               SOILS IN THE VICINITY OF MILL CREEK, MONTANA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609            NUMBER: 100002          DATE: 03/00/86           PAGES: 24
TITLE/SUBJECT: SAMPLING AND ANALYSIS OF DOMESTIC WATER WELLS IN THE
               VICINITY OF THE ANACONDA SMELTER SITE TO VERIFY THAT
               DOMESTIC WELLS HAVE NOT BEEN ADVERSELY AFFECTED BY OVERLYING
               SOIL CONTAMINANTS. (INTERNAL DOCUMENT NUMBER TTB 151 FO)
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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ANACONDA SMELTER SITE
MILL CREEK, MONTANA OPERABLE UNIT
ADMINISTRATIVE RECORD INDEX

10/01/87

FILE: 2021609 NUMBER: 100003 DATE: 07/25/00 PAGE 4
TITLE/SUBJECT: CHAIN OF CUSTODY RECORDS--PROJECT NAME: MILL CREEK; PROJECT NUMBER: 228
AUTHOR: NOT INDICATED
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021609 NUMBER: 100004 DATE: 08/25/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF RESULTS OF THE ANACONDA SOILS SAMPLES UNDER SERVICE REQUEST NUMBER 14199.
AUTHOR: DOXSEE, KARI
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100004A DATE: 00/00/00 PAGES: 243
TITLE/SUBJECT: DATA PACKAGE OF RESULTS OF THE ANACONDA SOILS SAMPLES SUBMITTED BY WEYERHAEUSER ANALYTICAL AND TESTING SERVICES. CHAIN OF CUSTODY RECORDS INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100005 DATE: 08/29/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF COPIES OF THE FOLLOWING REQUESTED DATA PACKAGES: TAPWATER (TOP), DEEP-TILL BEFORE, DEEP-TILL AFTER, PROFILES, AND SURFACE (BOTTOM). THE LEACH TEST DATA PACKAGE HAS NOT BEEN RECEIVED YET FROM THE LABORATORY.
AUTHOR: LYTLE, CHARLES R.
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100006 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF REPORT FOR SERVICE REQUEST NUMBER 13876
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100007 DATE: 10/03/86E PAGES: 6
TITLE/SUBJECT: METHOD SUMMARY, DATES OF ANALYSIS, QC CALIBRATION VERIFICATION SUMMARY, QC DUPLICATE SUMMARY, AND QC SPIKE SUMMARY FOR PROJECT 61504.
AUTHOR: NOT INDICATED
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021609          NUMBER: 100008          DATE: 05/20/86          PAGES: 18
TITLE/SUBJECT: FIELD NOTEBOOK DETAILING THE MILL CREEK TAPWATER SAMPLING.
       AUTHOR: RUPP, GRETCHEN
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES
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FILE: 2021609          NUMBER: 100009          DATE: 06/03/86          PAGES: 117
TITLE/SUBJECT: DATA PACKAGE FOR SERVICE REQUEST NUMBER 13876.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100010          DATE: 06/23/86          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF RESULTS FOR THE ANALYSIS OF THREE WATER
               SAMPLES WHICH WERE RECEIVED ON MAY 23, 1986.
       AUTHOR: BOLLINGER, MARK J.
 ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
    ADDRESSEE: LYTLE, CHUCK
 ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER
--------------------------------------------------------------------------------

FILE: 2021609          NUMBER: 100011          DATE: 09/15/86E         PAGES: 1
TITLE/SUBJECT: "APPENDIX D - WEYERHAEUSER/TETRATECH RESPONSES TO REM II/RPM
               REQUEST FOR INFORMATION"--APPENDIX COVER.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100012          DATE: 10/06/86          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF ALL AVAILABLE ADDITIONAL DOCUMENTATION AS
               REQUESTED ON THE SEPTEMBER 15TH AND SEPTEMBER 24TH MEMORANDA
               FROM CDM FOR MILL CREEK DATA VALIDATION.
       AUTHOR: LYTLE, CHARLES R.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
--------------------------------------------------------------------------------

FILE: 2021609          NUMBER: 100013          DATE: 00/00/00          PAGES: 41
TITLE/SUBJECT: PART 2--A PACKAGE CONTAINING ALL THE AVAILABLE ADDITIONAL
               DOCUMENTATION AS REQUESTED ON THE SEPTEMBER 15TH AND
               SEPTEMBER 24TH MEMORANDA FROM CDM.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100015          DATE: 10/09/86          PAGES: 1
TITLE/SUBJECT: REGARDING QUESTIONS WHICH HAVE ARISEN CONCERNING FIELD
               PROCEDURES USED BY TETRA TECH AND ITS SUBCONTRACTORS IN THE
               MILL CREEK, MONTANA REMEDIAL INVESTIGATION.  ALL FIELD
               PROCEDURE METHODS WERE THOSE SPECIFIED AS STANDARD OPERATING
               PROCEDURES AND FIELD OPERATING PROCEDURES FOR ANACONDA.
       AUTHOR: RUPP, GRETCHEN
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: CHEATHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100016         DATE: 10/14/86         PAGES: 1
TITLE/SUBJECT: EXPLAINING THAT ALL LABORATORY ANALYTICAL PROCEDURES
               DETAILED IN THE LABORATORY ANALYTICAL PROTOCOL DEVELOPED FOR
               THE ANACONDA SMELTER RI/FS WERE STRICTLY FOLLOWED, AND
               PERSONNEL PERFORMING THE LABORATORY WORK WERE ALL QUALIFIED
               ACCORDING TO THE EPA'S CLP REQUIREMENTS.
       AUTHOR: FROST, THOMAS R.
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: CHEATHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100017         DATE: 10/10/86         PAGES: 1
TITLE/SUBJECT: EXPLAINING THAT ALL LABORATORY ANALYTICAL PROCEDURES WERE
               FOLLOWED AND THAT THE PERSONNEL PERFORMING THE ACTUAL
               LABORATORY WORK ARE ALL QUALIFIED ACCORDING TO THE EPA'S
               CLP REQUIREMENTS.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: CHEAPHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100018         DATE: 00/00/00         PAGES: 1
TITLE/SUBJECT: "APPENDIX G - TETRATECH, INC. RESPONSE TO REM II REQUEST FOR
               ADDITIONAL INFORMATION TO ADDRESS LAP AND QAPP DEFICIENCIES"
               --APPENDIX COVER.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609         NUMBER: 100019         DATE: 10/24/86         PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF ADDITIONAL DOCUMENTATION FOR MILL CREEK RI/FS
               DATA WHICH WAS REQUESTED IN AN OCTOBER 20, 1986 MEMORANDUM
               FROM CDM WHICH LISTS 11 ITEMS FROM THE QAPP AND 12 ITEMS
               FROM THE LAP THAT REQUIRE "SPECIFIC, DETAILED
               DOCUMENTATION."
       AUTHOR: LYTLE, CHARLES R.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100020         DATE: 00/00/00         PAGES: 1
TITLE/SUBJECT: "APPENDIX H - ADDITIONAL DOCUMENTATION PROVIDED BY
               WEYERHAEUSER TO REM II PERSONNEL IN RESPONSE TO REM II
               PERSONNEL TELEPHONE REQUESTS"--APPENDIX COVER.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609         NUMBER: 100021         DATE: 11/12/86         PAGES: 6
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONNEL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609          NUMBER: 100022          DATE: 11/03/86          PAGES: 2
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONNEL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------

FILE: 2021609          NUMBER: 100023          DATE: 10/31/86          PAGES: 9
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONNEL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609          NUMBER: 100024          DATE: 10/06/86          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF ALL AVAILABLE ADDITIONAL DOCUMENTATION AS
               REQUESTED ON THE SEPTEMBER 15TH AND SEPTEMBER 24TH
               MEMORANDA FROM CDM FOR MILL CREEK DATA VALIDATION.
       AUTHOR: LYTLE, CHARLES R.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021609          NUMBER: 100025          DATE: 00/00/00          PAGES: 3
TITLE/SUBJECT: "PART 2--ADDITIONAL DOCUMENTATION `COMMON TO ALL OF THE DATA
               PACKAGES.'"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100026          DATE: 00/00/00          PAGES: 6
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 13876 (TAP WATER)"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100027          DATE: 00/00/00          PAGES: 8
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 13965 (PRE-LEACH
               TEST SOILS)"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100028          DATE: 00/00/00          PAGES: 5
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 13975 (POST-LEACH
               TEST SOILS AND LEACHATE)"
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100029          DATE: 00/00/00       PAGES: 5
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 14064 (DEEP-TILL
               BEFORE)"
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100030          DATE: 00/00/00       PAGES: 4
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 14102 (YARD SOIL
               PROFILES)"
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100031          DATE: 00/00/00       PAGES: 2
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR MC-1W (WEY LOT # 12611)"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100032          DATE: 00/00/00       PAGES: 6
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 14199 (DEEP-TILL
               AFTER)"
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100033          DATE: 05/23/86       PAGES: 1
TITLE/SUBJECT: DISCUSSION OF SAMPLING EVENTS FOR SOIL SAMPLES COLLECTED
               BY TAT FROM THE MILL CREEK COMMUNITY, DEER LODGE COUNTY,
               MONTANA ON THREE SEPARATE OCCASIONS.
       AUTHOR: WHITTENHAGEN, DIANE K.
 ORGANIZATION: TECHNICAL ASSISTANCE TEAM (TAT) REGION VIII
    ADDRESSEE: NICHOLS, FLOYD D.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021609          NUMBER: 100034          DATE: 00/00/00       PAGES: 4
TITLE/SUBJECT: "ADDITIONAL DOCUMENTATION FOR WEY LOT # 14205 (SURFACE
               SOILS)"
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100035          DATE: 10/09/86       PAGES: 1
TITLE/SUBJECT: REGARDING QUESTIONS WHICH HAVE ARISEN CONCERNING FIELD
               PROCEDURES USED BY TETRA TECH AND ITS SUBCONTRACTORS IN THE
               MILL CREEK, MONTANA REMEDIAL INVESTIGATION.  ALL FIELD
               PROCEDURE METHODS WERE THOSE SPECIFIED AS STANDARD OPERATING
               PROCEDURES AND FIELD OPERATING PROCEDURES FOR ANACONDA.
       AUTHOR: RUPP, GRETCHEN
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: CHEATHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100036        DATE: 10/14/86         PAGES: [illegible]
TITLE/SUBJECT: EXPLAINING THAT ALL LABORATORY ANALYTICAL PROCEDURES
               DETAILED IN THE LABORATORY ANALYTICAL PROTOCOL DEVELOPED
               FOR THE ANACONDA SMELTER RI/FS WERE STRICTLY FOLLOWED, AND
               PERSONNEL WHO PERFORMED THE LABORATORY WORK WERE ALL
               QUALIFIED ACCORDING TO THE EPA'S CLP REQUIREMENTS.
       AUTHOR: FROST, THOMAS R.
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: CHEATHAM, RICHARD
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100037        DATE: 10/24/86         PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF ADDITIONAL DOCUMENTATION FOR MILL CREEK RI/FS
               DATA WHICH WAS REQUESTED IN AN OCTOBER 20, 1986 MEMORANDUM
               FROM CDM WHICH LISTS 11 ITEMS FROM THE QAPP AND 12 ITEMS
               FROM THE LAP THAT REQUIRE "SPECIFIC, DETAILED
               DOCUMENTATION."
       AUTHOR: LYTLE, CHARLES R.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021609         NUMBER: 100038        DATE: 10/31/86         PAGES: 3
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONNEL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609         NUMBER: 100039        DATE: 11/03/86         PAGES: 2
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONELL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021609         NUMBER: 100040        DATE: 11/12/86         PAGES: 6
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ADDITIONAL DOCUMENTATION
               REQUESTED BY REM II PERSONNEL.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609         NUMBER: 100041        DATE: 07/29/85         PAGES: 1
TITLE/SUBJECT: "LABORATORY NOTEBOOK"--NOTEBOOK NO.:  FIELD LAB # 2;
               ASSIGNED TO:  GRETCHEN RUPP; DATE:  7/29/85.
       AUTHOR: RUPP, GRETCHEN
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609 NUMBER: 100042 DATE: 10/10/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL COVER SHEET
AUTHOR: DOXSEE, KARI
ORGANIZATION: NOT INDICATED
ADDRESSEE: CHEAPHAM, RICHARD
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021609 NUMBER: 100043 DATE: 10/10/86 PAGES: 1
TITLE/SUBJECT: EXPLAINING THAT ALL LABORATORY ANALYTICAL PROCEDURES WERE FOLLOWED AND THAT THE PERSONNEL PERFORMING THE ACTUAL LABORATORY WORK ARE ALL QUALIFIED ACCORDING TO THE EPA'S CLP REQUIREMENTS.
AUTHOR: DOXSEE, KARI
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: CHEAPHAM, RICHARD
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100044 DATE: 05/23/86 PAGES: 1
TITLE/SUBJECT: DISCUSSION OF SAMPLING EVENTS FOR SOIL SAMPLES COLLECTED BY TAT FROM THE MILL CREEK COMMUNITY, DEER LODGE COUNTY, MONTANA ON THREE SEPARATE OCCASIONS.
AUTHOR: WHITTENHAGEN, DIANE K.
ORGANIZATION: TECHNICAL ASSISTANCE TEAM (TAT) REGION VIII
ADDRESSEE: NICHOLS, FLOYD D.
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100045 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: "SECTION #1-B - LABORATORY DATA PACKAGE FOR MC-1W"--YELLOW COVER SHEET.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100046 DATE: 10/16/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF RESULTS FOR LYSIMETER AND WELL WATERS COLLECTED AT ANACONDA MINES, SERVICE REQUEST NUMBER 12611.
AUTHOR: SHELTON, MIKE
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100047 DATE: 08/08/85E PAGES: 12
TITLE/SUBJECT: RESULTS FOR LYSIMETER AND WELL WATERS COLLECTED AT ANACONDA MINES, SERVICE REQUEST NUMBER 12611.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100048 DATE: 10/24/85 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF ARSENIC ANALYSES OF MILL CREE UNFILTERED DRINKING WATER SAMPLES COLLECTED BY THE FIT TEAM.
AUTHOR: BIGHAM, GARY N.
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100049 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF 26 PAGES OF DRINKING WATER ANALYSES PROVIDED BY ANACONDA. THE DATA NEEDS TO BE VALIDATED ACCORDING TO THE QUALITY ASSURANCE PROJECT PLAN AND THE LAB ANALYTICAL PROTOCOL.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: ERICSON, JIM
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021609 NUMBER: 100050 DATE: 00/00/00 PAGES: 30
TITLE/SUBJECT: COPIES OF PAGES FROM G.L. RUPP'S NOTEBOOK FROM AUGUST 1985 THROUGH OCTOBER 1986.
AUTHOR: RUPP, GRETCHEN
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100051 DATE: 07/22/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A LIST OF SOIL SAMPLES (NOT ATTACHED) THAT TETRA TECH WOULD LIKE CDM TO SEND TO WEYERHAEUSER TECHNOLOGY CENTER.
AUTHOR: SCHMIDT, CAROLE
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: ERICSON, JIM
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100052 DATE: 08/22/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF THE ANACONDA SOIL SAMPLES PERFORMED UNDER SERVICE REQUEST NUMBER 14205.
AUTHOR: DOXSEE, KARI
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100053 DATE: 07/25/00 PAGES: 161
TITLE/SUBJECT: RESULTS OF THE ANACONDA SOIL SAMPLES FOR SERVICE REQUEST NUMBER 14205 (ICP AND ATOMIC ABSORPTION DATA). CHAIN OF CUSTODY INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100054 DATE: 03/14/85E PAGES: 78
TITLE/SUBJECT: INORGANIC ANALYSES DATA PACKAGE FOR THE ANACONDA RI/FS PROJECT.
AUTHOR: MASINO, MARK
ORGANIZATION: CALIFORNIA ANALYTICAL LABORATORIES, INC.
ADDRESSEE: BAILEY, ANN K.
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100055 DATE: 00/00/00 PAGES: 16
TITLE/SUBJECT: "SECTION #2-B - FIELD LABORATORY NOTEBOOK PAGES (SO-012 ONLY)"-YELLOW COVER SHEET AND MILL CREEK SAMPLING NOTES FROM DECEMBER 1984 TO JANUARY 1985 AND SOIL ANALYSIS RESULTS FROM CALIFORNIA ANALYTICAL LABORATORIES.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100056 DATE: 03/26/85 PAGES: 6
TITLE/SUBJECT: TRANSMITTAL OF THE ANALYSIS RESULTS OF THE SOIL SAMPLES WHICH WERE RECEIVED ON JANUARY 17, 1985.
AUTHOR: BOLLINGER, MARK J.
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY
ADDRESSEE: BAILEY, ANN K.
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100057 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: "SECTION #1-A - LABORATORY DATA PACKAGE FOR SO-012 (MC-2)"--YELLOW COVER SHEET.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100058 DATE: 00/00/00 PAGES: 28
TITLE/SUBJECT: "ANACONDA/MILL CREEK DATA - SUMMARY OF ESTIMATED VALUES" ANALYSIS RESULTS FOR PACKAGE #'S 13876, 13965, 13975, 14064, 14102, 14199, 14205, 20094, 12611, AND 13242.
AUTHOR: NOT INDICATED
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100059 DATE: 00/00/00 PAGES: 11
TITLE/SUBJECT: COPIES OF A SAMPLING NOTEBOOK CONTAINING DIAGRAMS AND DESCRIPTIONS OF THE SAMPLING OF ROAD DUST AND SOIL AT MILL CREEK, MONTANA. (THE PAGES ARE DATED FROM 7/12/85 TO 10/16/85)
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

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FILE: 2021609          NUMBER: 100060          DATE: 10/00/85          PAGES: [illegible]
TITLE/SUBJECT: "INTERLABORATORY COMPARISON QC DATA (OCTOBER, 1985 MILL
               CREEK SOILS SAMPLING)"--ANALYSIS DATA FOR SERVICE REQUEST
               NUMBER 12932.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100061          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "SECTION #6-C - RESULTS TRANSMITTAL LETTER (MC-1W)"--YELLOW
               COVER SHEET.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609          NUMBER: 100062          DATE: 10/24/85          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF ARSENIC ANALYSES OF MILL
               CREEK UNFILTERED DRINKING WATER SAMPLES COLLECTED BY THE
               FIT TEAM.
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021609          NUMBER: 100063          DATE: 00/00/00          PAGES: 8
TITLE/SUBJECT: ANALYTICAL RESULTS FOR SERVICE REQUEST NUMBER 13975.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100064          DATE: 00/00/00          PAGES: 9
TITLE/SUBJECT: FACSIMILE TRANSMISSION OF ANALYTICAL DATA ON 10/31/86,
               11/03/86, AND 11/12/86.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: BERNIG, WILLIAM
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609          NUMBER: 100066          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "APPENDIX H - ADDITIONAL DOCUMENTATION PROVIDED BY
               WEYERHAEUSER TO REM II PERSONNEL IN RESPONSE TO REM II
               PERSONNEL TELEPHONE REQUESTS"--WHITE COVER SHEET.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021609          NUMBER: 100067          DATE: 09/23/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE DATA PACKAGE FOR LEAD REANALYSIS WHICH
               COMPLETES THE TRANSMITTAL OF ALL NEW DATA GENERATED FOR THE
               MILL CREEK RI/FS.
       AUTHOR: LYTLE, CHARLES R.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021609          NUMBER: 100068          DATE: 09/03/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF THE ANACONDA SOIL LEACHING
               SAMPLES PERFORMED UNDER SERVICE REQUEST NUMBER 13975.
       AUTHOR: DOXSEE, KARI
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: LYTLE, CHUCK
 ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER
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FILE: 2021609          NUMBER: 100069          DATE: 08/08/86          PAGES: 6
TITLE/SUBJECT: "LEACHING TEST, ANACONDA"--INDICATES SCOPE, APPROACH,
               APPARATUS DIAGRAM, PREFILLING TUBES DESCRIPTION, AND
               SAMPLE DATE, TIME AND VOLUME USED.
       AUTHOR: SHELTON, MIKE
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES
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FILE: 2021609          NUMBER: 100070          DATE: 00/00/00          PAGES: 297
TITLE/SUBJECT: ANALYTICAL DATA PACKAGE OF MILL CREEK SOIL SAMPLES
               ANALYZED BY THE LEACH TEST METHOD.  (SERVICE REQUEST
               NUMBER 13975)
       AUTHOR: NOT INDICATED
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100071          DATE: 08/08/86          PAGES: 3
TITLE/SUBJECT: ANALYTICAL RESULTS OF ANACONDA SOIL SAMPLES, SERVICE
               REQUEST NUMBER 14064.
       AUTHOR: NOT INDICATED
 ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609          NUMBER: 100072          DATE: 06/12/86          PAGES: 10
TITLE/SUBJECT: CHAIN OF CUSTODY RECORDS AND SAMPLE ANALYSIS REQUEST FORMS
               FOR THE MILL CREEK RI/FS PROJECT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021609 NUMBER: 100073 DATE: 00/00/00 PAGES: 5
TITLE/SUBJECT: "DEEP TILLING EXPERIMENT - FIELD PROCEDURES" - STEP 1 THROUGH STEP 4 WITH A DIAGRAM.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100074 DATE: 00/00/00 PAGES: 19
TITLE/SUBJECT: COPIES OF A FIELD NOTEBOOK DESCRIBING DEEP TILL SITE SAMPLING TAKING PLACE FROM JUNE 11, 1986 TO JUNE 18, 1986.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100075 DATE: 00/00/00 PAGES: 9
TITLE/SUBJECT: "TABLE 5 - FIELD DATA SHEET PHASE II SOILS INVESTIGATION ANACONDA RI/FS"--SOIL PROFILE DATA.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021609 NUMBER: 100076 DATE: 08/11/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF REPORT FOR THE MILL CREEK DEEP TILL SAMPLES, SERVICE REQUEST NUMBER 14064.
AUTHOR: DOXSEE, KARI
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100076A DATE: 00/00/00 PAGES: 215
TITLE/SUBJECT: DATA PACKAGE REPORT FOR THE MILL CREEK DEEP TILL SAMPLES FOR THE MILL CREEK RI/FS PROJECT.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100077 DATE: 09/17/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE PRE-LEACH TEST SOIL DATA PACKAGE, THE POST-LEACH SOIL AND LEACHATE DATA PACKAGE, AND A COPY OF THE DRAFT QA/AC SECTION FROM THE LEACH TEST TECHNICAL MEMORANDUM.
AUTHOR: LYTLE, CHARLES R.
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100078 DATE: 07/25/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF ANALYTICAL RESULTS PERFORMED UNDER SERVICE REQUEST NUMBER 13965.
AUTHOR: DOXSEE, KARI
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100079 DATE: 00/00/00 PAGES: 7
TITLE/SUBJECT: QUALITY ASSURANCE/QUALITY CONTROL SECTION FROM THE LEACH TEST TECHNICAL MEMORANDUM.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100080 DATE: 06/13/86 PAGES: 208
TITLE/SUBJECT: ANALYTICAL RESULTS FOR ANACONDA SOIL SAMPLES PERFORMED UNDER SERVICE REQUEST NUMBER 13965.
CHAIN OF CUSTODY RECORDS INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100081 DATE: 07/22/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS FOR THE ANALYSIS OF THE THREE SOIL SAMPLES WHICH WERE RECEIVED ON JUNE 20, 1986.
AUTHOR: BOLLINGER, MARK J.
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY (RMAL)
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

FILE: 2021609 NUMBER: 100081A DATE: 06/19/86E PAGES: 3
TITLE/SUBJECT: RESULTS FOR THE ANALYSIS OF THREE SOIL SAMPLES FOR THE MILL CREEK RI/FS PROJECT.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100081B DATE: 00/00/00 PAGES: 13
TITLE/SUBJECT: "TABLE I - PERRY'S 5TH, TABLE 21-12, - SIEVE SIZES" AND "STANDARD METHOD FOR PARTICLE-SIZE ANALYSIS OF SOILS."
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100082 DATE: 00/00/00 PAGES: 4
TITLE/SUBJECT: METHOD SUMMARY, DATES OF ANALYSIS, QC CALIBARATION VERIFICATION SUMMARY, QC DUPLICATE SUMMARY, AND QC SPIKE SUMMARY FOR PROJECT 61616.
AUTHOR: NOT INDICATED
ORGANIZATION: ROCKY MOUNTAIN ANALYTICAL LABORATORY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100083 DATE: 00/00/00 PAGES: 5
TITLE/SUBJECT: "SOIL COLUMN LEACH TEST - FIELD AND LABORATORY PROCEDURES" FIELD PROCEDURES STEP 1 THROUGH STEP 5.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100084 DATE: 00/00/00 PAGES: 12
TITLE/SUBJECT: COPIES OF NOTEBOOK PAGES DOCUMENTING MILL CREEK RI/FS SAMPLING WHICH TOOK PLACE JUNE 9, 1986 AND JUNE 10, 1986.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100085 DATE: 00/00/00 PAGES: 8
TITLE/SUBJECT: "TABLE 5 - FIELD DATA SHEET PHASE II SOILS INVESTIGATION ANACONDA RI/FS"--SOIL PROFILLE DATA; "DOUBLE RING INFILTRATION TEST"--RESULTS FROM THE MILL CREEK RI/FS SOIL LEACH TEST.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021609 NUMBER: 100086 DATE: 00/00/00 PAGES: 18
TITLE/SUBJECT: COPIES OF G.L. RUPP'S NOTEBOOK PAGES DOCUMENTING WATER SAMPLING IN MILL CREEK. (PAGES ARE DATED FROM 12/5/85 TO 1/28/86)
AUTHOR: RUPP, GRETCHEN
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021609 NUMBER: 100087 DATE: 03/00/86 PAGES: 99
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - TECHNICAL MEMORANDUM NO. 4 - DOMESTIC WELLWATER SAMPLING"--THE OBJECTIVE OF THE SAMPLING WAS TO VERIFY THAT DOMESTIC WELLS HAVE NOT BEEN ADVERSELY AFFECTED BY OVERLYING SOIL CONTAMINANTS.
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021609 NUMBER: 100088 DATE: 02/20/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE FINAL REPORT FOR MERCURY ANALYSIS SUBMITTED UNDER SERVICE REQUEST NUMBERS 13242 AND 13408, AND A REANALYSIS OF ONE SAMPLE EACH FROM SERVICE REQUESTS 12611 AND 12932.
AUTHOR: SHELTON, MIKE
ORGANIZATION: WEYERHAEUSER ANALYTICAL AND TESTING SERVICES
ADDRESSEE: LYTLE, CHUCK
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

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FILE: 2021609         NUMBER: 100089          DATE: 00/00/00          PAGES: 337
TITLE/SUBJECT: DATA PACKAGES FOR SERVICE REQUEST NUMBERS 13408, 13242 OF
               ANACONDA WATER SAMPLES, AND ANOTHER DATA PACKAGE WITH NO
               SERVICE REQUEST NUMBER WHICH COULD BE SERVICE REQUEST
               NUMBER 12611 AND/OR 12932 AS SPECIFIED IN THE COVER LETTER.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------
FILE: 2021701         NUMBER: 100001          DATE: 03/01/79          PAGES: 28
TITLE/SUBJECT: PHOTOGRAPHS OF THE ANACONDA SMELTER SITE AND SURROUNDING
               BUILDINGS.DOCUMENT ALSO INCLUDES PHOTOS BY MIKE DAVENPORT
               ABOUT THE SLAG DUMPING ON JUNE-10-11,1980 AND A MEMO CONCERN
               ING THE SLAG OBSERVATION. DOCUMENT ALSO INCLUDES PHOTOS OF
               SNOW CONTAMINATION AND HANDWRITTEN NOTES
       AUTHOR: ALKEMA, KEN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: PHOTO/SLIDE
--------------------------------------------------------------------------------
FILE: 2021701         NUMBER: 100001A         DATE: 11/29/79          PAGES: 4
TITLE/SUBJECT: POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND
               PRELIMINARY ASSESSMENT FORM FOR ORE PROCESSING OPERATIONS
               ON THE ANACONDA COMPANY SITE, ANACONDA MT.
       AUTHOR: ILLEGIBLE
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LOG/DAILY REPORT
--------------------------------------------------------------------------------
FILE: 2021701         NUMBER: 100001B         DATE: 00/00/80          PAGES: 6
TITLE/SUBJECT: A 1980 CENSUS REPORT BROKEN DOWN BY RACIAL POPULATION FOR
               DEER LODGE COUNTY, ANACONDA DIVISION, SILVER BOW COUNTY AND
               AND BUTTE MONTANA, AND COMBINATIONS THEREOF.
       AUTHOR: NOT INDICATED
 ORGANIZATION: MONTANA DEPARTMENT OF COMMUNITY AFFAIRS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------
FILE: 2021701         NUMBER: 100001C         DATE: 00/00/80          PAGES: 1
TITLE/SUBJECT: SUMMARY OF WATER QUALITY SAMPLING - ANACONDA COPPER CO. POND
               SYSTEM, (FOR WELL # 55 ?) ON SAMPLING DATES 9/13/79, 12/6/79
               3/20/80, 6/12/80, AND 8/21/80
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: PHOTO/SLIDE
--------------------------------------------------------------------------------
FILE: 2021701         NUMBER: 100001D         DATE: 06/28/82E         PAGES: 26
TITLE/SUBJECT: HAZARDOUS RANKING SYSTEM (HRS) FOR THE ANACONDA SMELTER
               FACILITY, ANACONDA MT. DOCUMENT INCLUDES DOCUMENTATION
               RECORDS, AND POTENTIAL HAZARDOUS WASTE SITE - SITE
               INSPECTION REPORT
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021701          NUMBER: 100001E         DATE: 08/18/82          PAGES: 12
TITLE/SUBJECT: POTENTIAL HAZARDOUS WASTE SITE - SITE INSPECTION REPORT
               FOR THE ANACONDA SMELTER, ANACONDA MT.
       AUTHOR: DUNN, JIM
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100001F         DATE: 05/01/83          PAGES: 145
TITLE/SUBJECT: REPORT ENTITLED: SCREENING STUDY - ANACONDA SMELTER SITE
               ANACONDA, MONTANA. (INSERTED INSIDE DOCUMENT IS A COVER
               LETTER AND WELL #59, DATA SEE DOCUMENT #100002)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100002          DATE: 10/31/83          PAGES: 2
TITLE/SUBJECT: COVER LETTER TRANSMITTING DATA FOR CHRIST HAVEN WELL #59
               THAT PREVIOUSLY HAD AN ELEVATED MERCURY REPORT. THE LETTER
               DIRECTS ATTENTION TO THE FACT THAT THE SUBMITTED DATA FOR
               THE WELL INDICATES COMPLIANCE OF LESS THAN .001 MG/L.
               (DATA ATTACHED ON PAGE 2)
       AUTHOR: WINDORSKI, JIM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100003          DATE: 05/01/83          PAGES: 169
TITLE/SUBJECT: REPORT ENTITLED: SCREENING STUDY - ANACONDA SMELTER SITE
               MAY 1, 1983 - APPENDICES
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100004          DATE: 02/27/81          PAGES: 229
TITLE/SUBJECT: "SUMMARY OF WATER RESOURCES IN THE VICINITY OF THE ANACONDA
               COPPER COMPANY POND SYSTEM, DEER LODGE COUNTY, MONTANA"
       AUTHOR: BOTZ, M.K.
 ORGANIZATION: HYDROMETRICS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA COPPER COMPANY
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100005          DATE: 03/11/81          PAGES: 54
TITLE/SUBJECT: "ANACONDA REDUCTION DEPARTMENT - ANACONDA, MONTANA - SOLID
               WASTE INVENTORY"--INCLUDES THE OBJECTIVE, SCOPE, EXCLUSIONS,
               RESULTS, ANALYTICAL & SAMPLING PROCEDURES, REFERENCES,
               APPENDIX A - SITE DATA SHEETS, AND APPENDIX B - SITE
               LOCATION AND MAP.
       AUTHOR: CREZAN, LARRY
 ORGANIZATION: HEALTH AND ENVIRONMENT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021701          NUMBER: 100006          DATE: 09/00/81          PAGES: 9
TITLE/SUBJECT: "PHOTOGRAPHIC ANALYSIS OF HAZARDOUS WASTE STUDY SITES
               WESTERN MONTANA" (TS-AMD-81059) LOCATION OF THE ANACONDA
               COMPANY INDICATED ON MAP, WITH AERIAL PHOTOS OF LOCATION
               ATTACHED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MAP/DRAWING/DIAGRAM
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FILE: 2021701          NUMBER: 100007          DATE: 00/00/79          PAGES: 31
TITLE/SUBJECT: CHEMICAL DESCRIPTION AND CHARACTERISTICS OF ARSENIC,
               CADMIUM, COPPER, LEAD, MERCURY AND ZINC COMPOUNDS IN:
               "DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS." (FIFTH
               EDITION)
       AUTHOR: SAX, N. IRVING
 ORGANIZATION: VAN NOSTRAND REINHOLD COMPANY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021701          NUMBER: 100007A         DATE: 08/23/84          PAGES: 2
TITLE/SUBJECT: TITLE PAGE FOR THE "REPORT OF SAMPLING ACTIVITIES FOR
               RESIDENTIAL DUST AND SOIL SAMPLING IN ANACONDA, MONTANA AND
               SURROUNDING COMMUNITIES". (TDD R8-8504-08) ATTACHED IS A
               REFERENCE TO DOCUMENT 2021702, 174.
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021701          NUMBER: 100008          DATE: 11/00/84          PAGES: 28
TITLE/SUBJECT: HEALTH AND SAFETY PLAN FOR ANACONDA SMELTER RI/FS PROJECT
               DOCUMENT SPECIFIES POLICY AND GUIDANCE FOR THE CONDUCT OF
               FIELD PERSONNEL TO MINIMIZE HEALTH AND ACCIDENT RISKS WHILE
               WORKING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021701          NUMBER: 100008A         DATE: 11/00/84E         PAGES: 9
TITLE/SUBJECT: ATTACHMENT B - ANACONDA MINERALS COMPANY SAFETY/SAMPLING
               PLAN. DOCUMENT CONTAINS INTERNAL MEMOS AND TRANSMITTAL OF
               OTHER MEMOS CONCERNING THE POSTED ON-SITE SAFETY RULES AND
               HOUSEKEEPING PROCEDURES USED AT WORK
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: MEMO
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FILE: 2021701          NUMBER: 100009          DATE: 12/04/84          PAGES: 148
TITLE/SUBJECT: FINAL QUALITY ASSURANCE PROJECT PLAN FOR ANACONDA SMELTER
               RI/FS ANACONDA, MONTANA.(INTERNAL DOC.# 77.8LI8.0)
               DOCUMENT ALSO CONTAINS AN APPENDIX ENTITLED: DOCUMENT
               CONTROL PROCEDURES WHICH IS A DRAFT
       AUTHOR: LOVELL, DOUGLAS W.
 ORGANIZATION: CH2M HILL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021701 NUMBER: 100010 DATE: 12/04/84 PAGES:
TITLE/SUBJECT: TRANSMITTAL OF THREE COPIES OF REVISIONS TO THE FINAL QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR RI/FS AT ANACONDA SMETLER SITE, ANACONDA MONTANA. DISCUSSION OF THE QAPP'S REVISION IN LIGHT OF COMMENTS FROM JUANITA HILLMAN AND AN AMC/TETRA TECH NOV.8,1984 REVIEW MEETING.
AUTHOR: LOVELL, DOUGLAS W.
ORGANIZATION: CH2M HILL
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021701 NUMBER: 100011 DATE: 12/04/84 PAGES: 329
TITLE/SUBJECT: ANACONDA SMELTER RI/FS - LABORATORY ANALYTICAL PROTOCOL DOCUMENT CONTAINS CALIBRATION PROCEDURES,QUALITY CONTROL CHECKS,SAMPLE CUSTODY,DATA REPORTING REQUIREMENTS, AUDIT PROCEDURES,QA REPORTS,REFERENCES, AND ALL APPENDICES A - L, (I.G., APPENDIX A = CONTRACT LAB.PROGRAM - STATEMENT OF WORK)
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100011A DATE: 04/30/85 PAGES: 15
TITLE/SUBJECT: "RESIDENTIAL INDOOR AIR SAMPLING PLAN FOR ANACONDA, MONTANA" (TDD R8-8503-08)
AUTHOR: FRANZEN, DAVE
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100011B DATE: 05/13/85 PAGES: 100
TITLE/SUBJECT: "PARTICIPANT CONSENT-GENERAL" FORMS WITH ATTACHED SURVEY WHICH ALLOWS THE ENVIRONMENTAL PROTECTION AGENCY AND CDC TO INTERVIEW THE RESIDENT AND TEST THE PROPERTY AIR, DUST, AND SOIL. DATES INCLUDE 5/13/85 THROUGH 5/23/85.
AUTHOR: EUNICE, KELLY
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021701 NUMBER: 100011C DATE: 07/08/85 PAGES: 6
TITLE/SUBJECT: "PARTICIPANT CONSENT-GENERAL" FORMS ALLOWING THE EPA AND CDC TO COLLECT A VACUUM DUST SAMPLE FROM THE RESIDENTS' HOME IN MILL CREEK TO DETERMINE THE POSSIBILITY OF EXPOSURE TO ARSENIC.
AUTHOR: FRANZEN, DAVE
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021701 NUMBER: 100012 DATE: 07/00/85 PAGES: 33
TITLE/SUBJECT: HEALTH EFFECTS - SOILS INVESTIGATION PLAN - DATA REPORT (INTERNAL DOCUMENT NO. BAL TTB-050D0)
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100012A DATE: 07/00/85 PAGES: 2
TITLE/SUBJECT: TITLE PAGE FOR "ANACONDA, MONTANA - JULY 1985 ARSENIC STUDY" ATTACHED IS A REFERENCE TO DOCUMENT 2021707, 100003.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021701 NUMBER: 100012B DATE: 09/04/85 PAGES: 2
TITLE/SUBJECT: FIRST PAGE OF A CORRESPONDENCE REGARDING SOIL SAMPLING IN THE MILL CREEK AREA OF ANACONDA, MONTANA, TDD R8-8504-08. TABULATED CONCENTRATIONS OF ARSENIC AND LEAD IN SOIL, INDOOR AIR AND VACUUM DUST SAMPLES. ATTACHED IS A REFERENCE TO DOCUMENT 2021702, 173.
AUTHOR: FRANZEN, DAVE
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021701 NUMBER: 100012C DATE: 10/17/85 PAGES: 7
TITLE/SUBJECT: TRANSMITTAL OF ANALYTICAL RESULTS FOR ANACONDA'S INDOOR AIR SAMPLING (R8-8504-08).
AUTHOR: CALLIO, STEVE
ORGANIZATION: NOT INDICATED
ADDRESSEE: SCHWAB, KEITH
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021701 NUMBER: 100013 DATE: 11/00/85 PAGES: 78
TITLE/SUBJECT: ASSESSMENT OF AIRBORNE TRANSPORT OF HAZARDOUS SUBSTANCES FROM THE ANACONDA SMELTER SITE, FINAL REPORT. (INTERNAL DOCUMENT NO. 228-TS1-RT-BTDZ-2) REFERENCES/APPENDICES INCLUDE: COMPILATION OF SOIL DATA COLLECTED IN COMMUNITIES NEAR THE ANACONDA SMELTER AND IN THE CONTROL COMMUNITIES.
AUTHOR: NOT INDICATED
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100013A DATE: 12/02/85 PAGES: 25
TITLE/SUBJECT: REGARDING "PRELIMINARY RESULTS OF THE RESIDENTIAL DUST AND SOIL SAMPLING IN ANACONDA, MONTANA, AND SURROUNDING COMMUNITIES". INCLUDES TABULATED CONCENTRATIONS OF ARSENIC, LEAD, AND CADMIUM IN INDOOR AIR, VACUUM DUST AND SOIL SAMPLES. (TDD R8-8511-11)
AUTHOR: FRANZEN, DAVE
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100013B DATE: 12/13/85 PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF CORRECTED PAGES FOR LETTER REPORT DISTRIBUTED ON 12/2/85.
AUTHOR: FRANZEN, DAVE
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021701 NUMBER: 100013C DATE: 12/20/85 PAGES: 6
TITLE/SUBJECT: REGARDING EVIDENCE OF OFF-SITE SOIL CONTAMINATION FROM PAST SMELTER EMISSIONS. (DOCUMENT CONTROL NO. 228-TS1-RJ-CARN-1)
AUTHOR: ERICSON, JIM
ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021701 NUMBER: 100014 DATE: 12/00/85 PAGES: 42
TITLE/SUBJECT: REPORT ENTITLED: SUMMARY OF AVAILABLE SOILS DATA MILL CREEK, MONTANA. (HANDWRITTEN NOTES ON PAGE 13, ALSO ATTACHED MEMO WITH RESULTS OF ARSENIC ANALYSES OF MILL CREEK DRINKING WATER SAMPLES FROM GARY BIGHAM TO MIKE BISHOP 10/24/85
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100014A DATE: 02/13/86 PAGES: 31
TITLE/SUBJECT: "REPORT OF SAMPLING ACTIVITIES FOR RESIDENTIAL INDOOR DUST, SAMPLING FOR THE MILL CREEK AREA OF ANACONDA, MONTANA" (TDD R8-8506-07)
AUTHOR: FRANZEN, DAVE
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100014B DATE: 01/17/86 PAGES: 61
TITLE/SUBJECT: TRANSMITTAL AND A REPORT TITLED: "ANALYTICAL RESULTS FOR RESIDENTIAL DUST AND SOIL SAMPLING IN ANACONDA, MONTANA, AND SURROUNDING COMMUNITIES. (TDD R8-8511-11)
AUTHOR: RICHARDSON, STUART
ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
ADDRESSEE: SCHWAB, KEITH
ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100015 DATE: 03/00/86 PAGES: 24
TITLE/SUBJECT: REPORT ENTITLED: ANACONDA SMELTER RI/FS TECHNICAL MEMORANDUM NO. 4 - DOMESTIC WELLWATER SAMPLING
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021701 NUMBER: 100016 DATE: 02/22/84E PAGES: 2
TITLE/SUBJECT: "DOCUMENTATION RECORD - ANACONDA SMELTER - ANACONDA, MONTANA"--AN OUTLINE OF DOCUMENTS UNDER OBSERVED RELEASE, WASTE CHARACTERISTICS, AND TARGETS UNDER THE HEADINGS GROUNDWATER ROUTE, SURFACE WATER ROUTE, AND AIR ROUTE.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

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FILE: 2021701          NUMBER: 100017          DATE: 12/00/84          PAGES: 79
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - STANDARD OPERATING PROCEDURES"
               (AN INCOMPLETE COPY IS LOCATED IN THE FRONT POCKET)
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100018          DATE: 00/00/86          PAGES: 36
TITLE/SUBJECT: "ASSESSMENT NOTICE OF PROPERTY SUBJECT TO TAXATION,
               ANACONDA-DEER LODGE COUNTY"--INDICATES THE OWNER OF THE
               PARCEL, OWNER INFORMATION, AND A DESCRIPTION OF THEIR
               HOLDINGS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100019          DATE: 09/00/87          PAGES: 316
TITLE/SUBJECT: "FINAL REMEDIAL INVESTIGATION REPORT MILL CREEK, MONTANA
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT"
               (EPA APPROVED VERSION 10/2/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100020          DATE: 09/28/87          PAGES: 225
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA,
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT
               VOLUME I" (EPA APPROVED VERSION 10/2/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021701          NUMBER: 100021          DATE: 09/00/87          PAGES: 19
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA,
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT,
               VOLUME II - APPENDICES" (EPA APPROVED VERSION 10/2/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021701          NUMBER: 100022          DATE: 10/00/87          PAGES: 15
TITLE/SUBJECT: "ENDANGERMENT ASSESSMENT/PUBLIC HEALTH EVALUATION:
               MILL CREEK, MONTANA ANACONDA SMELTER SITE REVISED FINAL
               REPORT"
       AUTHOR: NOT INDICATED
 ORGANIZATION: CLEMENT & ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702 NUMBER: 100001 DATE: 00/00/84 PAGES: 3
TITLE/SUBJECT: "A MULTI-MEDIA RISK ANALYSIS OF LEAD EXPOSURE FROM SECONDARY LEAD SMELTER EMISSIONS, AND RESULTING REMEDIAL ACTIONS": PRESENTED AT THE 77TH ANNUAL MEETING OF THE AIR POLLUTION CONTROL ASSOCIATION IN SAN FRANCISCO, JUNE 24-29, 1984.
AUTHOR: BIERMA, T.J., ET AL.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100002 DATE: 03/10/86 PAGES: 1
TITLE/SUBJECT: RESPONSE TO A REQUEST THAT URINARY ARSENIC TESTING BE OFFERED TO ALL MILL CREEK RESIDENTS AND THAT A HEALTH STUDY BE CONDUCTED. THE AUTHOR FEELS THESE TESTINGS AND STUDIES SHOULD NOT BE DONE.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: BUYNOWSKI, GEORGE
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021702 NUMBER: 100003 DATE: 11/06/85E PAGES: 2
TITLE/SUBJECT: "ARSENIC EXPOSURE IN CHILDREN LIVING NEAR THE FORMER COPPER SMELTER AT ANACONDA, MONTANA"--AN ARSENIC EXPOSURE SURVEY IN MARCH OF 1985 SHOWED THAT MILL CREEK PRESCHOOL CHILDREN HAVE MORE ARSENIC EXPOSURE THAN CHILDREN FROM ANY OTHER COMMUNITY NEAR ANACONDA; A RETEST WILL TAKE PLACE IN SUMMER.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100004 DATE: 00/00/00 PAGES: 14
TITLE/SUBJECT: "APPENDIX 23 - ESTIMATING THE AMOUNT OF SOIL INGESTED BY YOUNG CHILDREN THROUGH TRACER ELEMENTS"--TESTING OF A MODIFIED METHOD TO DETERMINE THE ESTIMATED AMOUNT OF SOIL INGESTED BY TODDLERS.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100005 DATE: 00/00/00 PAGES: 16
TITLE/SUBJECT: "ESTIMATING SOIL INGESTION"--THE USE OF TRACER ELEMENTS IN ESTIMATING THE AMOUNT OF SOIL INGESTED BY YOUNG CHILDREN.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100006 DATE: 03/00/83 PAGES: 9
TITLE/SUBJECT: "IMPLICATIONS OF THE MULTISTAGE THEORY OF CARCINOGENESIS APPLIED TO OCCUPATIONAL ARSENIC EXPOSURE". VOL 70(3):455-463. PREDICTS DIFFERENT RELATIONSHIPS BETWEEN EXCESS CARCINOGENIC RISK AND DURATION OF EXPOSURE, AGE AT INITIAL EXPOSURE AND FOLLOW-UP TIME SINCE EXPOSURE STOPPED.
AUTHOR: BROWN, CHARLES C., ET AL.
ORGANIZATION: JOURNAL OF THE NATIONAL CANCER INSTITUTE (JNCI)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021702          NUMBER: 100007          DATE: 01/00/85          PAGES: 42
TITLE/SUBJECT: "PREVENTING LEAD POISONING IN YOUNG CHILDREN"--A REPORT ON
               LEAD IN THE ENVIRONMENT AND ITS EFFECTS ON CHILDREN.
       AUTHOR: NOT INDICATED
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100008          DATE: 04/10/85          PAGES: 28
TITLE/SUBJECT: REVISION OF THE DRAFT REVIEW OF THE PRELIMINARY ENDANGERMENT
               ASSESSMENT DUE TO ADDITIONAL WORK PLAN DOCUMENTS AND REPORTS
               WHICH WERE OBTAINED AND A SITE INSPECTION WHICH TOOK PLACE
               ON JANUARY 15-18, 1985.
       AUTHOR: KAY, ROBERT L. JR.
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
DOCUMENT TYPE: MEMO
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FILE: 2021702          NUMBER: 100010          DATE: 00/00/84          PAGES: 14
TITLE/SUBJECT: "THE MULTISTAGE MODEL WITH A TIME-DEPENDENT DOSE PATTERN:
               APPLICATIONS TO CARCINOGENIC RISK ASSESSMENT".
               VOL 4(3):163-176.
       AUTHOR: CRUMP, KENNY S., ET AL.
 ORGANIZATION: RISK ANALYSIS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100011          DATE: 00/00/00          PAGES: 7
TITLE/SUBJECT: "A RETROSPECTIVE STUDY ON MALIGNANT NEOPLASMS OF BLADDER,
               LUNG AND LIVER IN BLACKFOOT DISEASE ENDEMIC AREA IN TAIWAN"
               VOL. 53:399-405.
       AUTHOR: CHEN, C.J., ET AL.
 ORGANIZATION: BR. JOURNAL OF CANCER
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100012          DATE: 00/00/85          PAGES: 23
TITLE/SUBJECT: "TITLE 40 - PROTECTION OF ENVIRONMENT - CHAPTER I--
               ENVIRONMENTAL PROTECTION AGENCY"--PART 141:  NATIONAL
               INTERIM PRIMARY DRINKING WATER REGULATIONS. PAGES 238-283.
       AUTHOR: NOT INDICATED
 ORGANIZATION: CODE OF FEDERAL REGULATIONS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100013          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: "HEALTH RISK ASSESSMENTS FOR CONTAMINATED SOILS" IN: THE
               PROCEEDINGS OF THE 5TH NATIONAL CONFERENCE ON MANAGEMENT OF
               UNCONTROLLED HAZARDOUS WASTE SITES. WASHINGTON D.C. NOV.7-9.
               DISCUSSES A METHOD DEVISED TO UTILIZE SOIL INGESTION DATA &
               CERTAIN HEALTH CRITERIA TO CALCULATE HEALTH-RELATED SOIL CRT
       AUTHOR: FORD, KARL L., ET AL.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100014          DATE: 00/00/83          PAGES: 11
TITLE/SUBJECT: "HEAVY METAL EXPOSURE IN POPULATIONS LIVING AROUND ZINC AND
               COPPER SMELTERS". VOL. 38(5):284-294
       AUTHOR: HARTWELL, TYLER D.(PH.D.)., ET AL.
 ORGANIZATION: ARCHIVES OF ENVIRONMENTAL HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100015          DATE: 06/29/87          PAGES: 103
TITLE/SUBJECT: "AQDHS - II AIR QUALITY DATA REPORT"--(COMPUTER PRINTOUTS
               OF AIR CONCENTRATIONS, WIND SPEEDS, AND TEMPERATURES FOR
               ANACONDA VICINITY)
       AUTHOR: NOT INDICATED
 ORGANIZATION: STATE OF MONTANA, DEPARTMENT OF ADMINISTRATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100016          DATE: 00/00/72          PAGES: 16
TITLE/SUBJECT: "ABUNDANCE AND DISTRIBUTION OF LEAD, CADMIUM, AND ARSENIC
               IN SOILS". PUB. NO. AP-91. PAGES 65-80. THE PURPOSE OF THE
               INVESTIGATION WAS TO DETERMINE THE EXTENT OF CONTAMINATION
               OF THE SOILS BY EMISSIONS FROM THE SMELTER OPERATION IN EAST
               HELENA.
       AUTHOR: MIESCH, A.T., ET AL.
 ORGANIZATION: USEPA, OFFICE OF AIR PROGRAMS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100017          DATE: 09/00/79          PAGES: 85
TITLE/SUBJECT: "AN ASSESSMENT OF MINING IMPACTS ON QUALITY OF SURFACE
               WATERS IN THE FLINT CREEK RANGE, MONTANA"
       AUTHOR: INGMAN, GARY L.
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100018          DATE: 00/00/00          PAGES: 15
TITLE/SUBJECT: "MONTANA WATER QUALITY ACT (INCLUDES 1979 REVISIONS)"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100019          DATE: 00/00/77          PAGES: 336
TITLE/SUBJECT: "MEDICAL AND BIOLOGICAL EFFECTS OF ENVIRONMENTAL POLLUTANTS:
               ARSENIC"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NATIONAL ACADEMY OF SCIENCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702           NUMBER: 100020          DATE: 09/00/80          PAGES: 3
TITLE/SUBJECT: "FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT ON URANIUM
               MILLING - PROJECT M-26"
       AUTHOR: NOT INDICATED
 ORGANIZATION: U.S. NUCLEAR REGULATORY COMMISSION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702           NUMBER: 100021          DATE: 01/14/83          PAGES: 4
TITLE/SUBJECT: "OCCUPATIONAL EXPOSURE TO INORGANIC ARSENIC (29 CFR PART
               1910)"--THIS NOTICE PRESENTS THE FINAL ASSESSMENT OF THE
               DEGREE OF RISK FROM OCCUPATIONAL EXPOSURE TO INORGANIC
               ARSENIC AND THE SIGNIFICANCE OF THAT RISK.
       AUTHOR: NOT INDICATED
 ORGANIZATION: FEDERAL REGISTER
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702           NUMBER: 100022          DATE: 00/00/84          PAGES: 5
TITLE/SUBJECT: "DEPOSITION AND RESUSPENSION". CHAPTER 12 OF "ATOMSPHERIC
               SCIENCE AND POWER PRODUCTION". DOE (TIC-27601). DISCUSSES
               THE SUBJECT OF THE TRANSPORT OF PARTICLES AND GASES FROM THE
               ATMOSPHERE TO ENVIRONMENTAL SURFACES AND FROM THOSE SURFACES
               BACK TO THE ATMOSPHERE.
       AUTHOR: SEHMEL, GEORGE A.
 ORGANIZATION: U.S. DEPARTMENT OF ENERGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702           NUMBER: 100023          DATE: 02/03/86          PAGES: 5
TITLE/SUBJECT: COMMENTS ON THE CLEMENT'S ENDANGERMENT ASSESSMENT FOR MILL
               CREEK, MONTANA WHICH THE AUTHOR BELIEVES PRESENTS A
               REASONABLE CHARACTERIZATION OF THE RISK IN MILL CREEK, BUT
               DOCUMENT COULD HAVE BENEFITED FROM SOME ADDITIONAL
               INFORMATION.
       AUTHOR: WHITE, PAUL
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021702           NUMBER: 100024          DATE: 11/22/85E         PAGES: 17
TITLE/SUBJECT: CLARIFYING THE REQUIREMENT THAT AN ENDANGERMENT ASSESSMENT
               BE DEVELOPED TO SUPPORT ALL ADMINISTRATIVE AND JUDICIAL
               ENFORCEMENT ACTIONS UNDER SECTION 106 UNDER CERCLA AND
               SECTION 7003 UNDER RCRA; AND ALSO PROVIDES GUIDANCE ON THE
               CONTENT, TIMING, LEVEL OF DETAIL, FORMAT, AND RESOURCES REQD
       AUTHOR: PORTER, J. WINSTON
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 2021702           NUMBER: 100025          DATE: 06/25/85E         PAGES: 17
TITLE/SUBJECT: CLARIFYING THE REQUIREMENT THAT AN ENDANGERMENT ASSESSMENT
               BE DEVELOPED TO SUPPORT ALL ADMINISTRATIVE AND JUDICIAL
               ENFORCEMENT ACTIONS UNDER SECTION 106 UNDER CERCLA AND
               SECTION 7003 UNDER RCRA; AND ALSO PROVIDES GUIDANCE ON THE
               CONTENT, TIMING, LEVEL OF DETAIL, FORMAT, AND RESOURCES REQD
       AUTHOR: MCGRAW, JACK W.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 2021702          NUMBER: 100026        DATE: 09/00/83          PAGES: 6
TITLE/SUBJECT: "U.S. CANCER MORTALITY RATES AND TRENDS, 1950-1979 -
               VOLUME I"--INFORMATION ON MORTALITY RATE BY COUNTY AND STATE
               AND MATERIALS AND METHODS USED. (EPA-600/1-83-015A)
       AUTHOR: RIGGAN, WILSON B. (Ph.D.), ET AL.
 ORGANIZATION: USEPA, HEALTH EFFECTS RESEARCH LABORATORY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100027        DATE: 11/28/80          PAGES: 63
TITLE/SUBJECT: "WATER QUALITY CRITERIA DOCUMENTS; AVAILABILITY" PART V. EPA
               ANNOUNCES THE AVAILABILITY AND PROVIDES SUMMARIES OF WATER
               QUALITY CRITERIA DOCUMENTS FOR 64 TOXIC POLLUTANTS OR
               POLLUTANT CATEGORIES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: FEDERAL REGISTER
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100028        DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF AN INTERIM POLICY PAPER IN ORDER TO CLARIFY
               CERTAIN PORTIONS OF EPA'S AIR QUALITY PERMITTING
               RESPONSIBILITIES REGARDING SURFACE MINING OPERATIONS.
       AUTHOR: MERSON, ALAN
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021702          NUMBER: 100029        DATE: 00/00/00          PAGES: 44
TITLE/SUBJECT: "EPA REGION VIII/INTERIM POLICY PAPER ON THE AIR QUALITY
               REVIEW OF SURFACE MINING OPERATIONS"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100030        DATE: 08/00/85          PAGES: 108
TITLE/SUBJECT: "ARBITER WORKS DRAFT REMEDIAL INVESTIGATION" (DOCUMENT
               CONTROL NO. BAL TTB-053F0)--THE REPORT PRESENTS THE FINDINGS
               OF FIELD INVESTIGATIONS AND LITERATURE REVIEW, AND THE
               CONCLUSIONS REGARDING POTENTIAL PUBLIC HEALTH ENDANGERMENT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100031        DATE: 07/00/86          PAGES: 446
TITLE/SUBJECT: "GEOCHEMISTRY REPORT"--SUMMARIZATION OF THE ANACONDA SMELTER
               TAILINGS COMPOSITION, HYDROGEOLOGIC SETTING, SURFACE AND
               GROUNDWATER QUALITY AND THE RESULTS OF THE PREDICTIVE
               GEOCHEMICAL AND SOLUTE TRANSPORT MODELING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100032         DATE: 09/00/85          PAGES: 125
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - TAILINGS DATA REPORT" (DOCUMENT
               CONTROL NO. BAL TTB-057D0)--THE GOAL OF THE REPORT IS TO
               CHARACTERIZE CONTAMINATION AND PHYSICAL/CHEMICAL
               ENVIRONMENTAL PARAMETERS IN SUFFICIENT DETAIL SO THAT AN
               ENDANGERMENT ASSESSMENT (EA) CAN BE PERFORMED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100034         DATE: 12/00/85          PAGES: 59
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - SOILS DATA REPORT PHASE II"--THE
               PRIMARY PURPOSES OF THE REMEDIAL INVESTIGATION ACTIVITIES
               ARE TO CHARACTERIZE CONTAMINATION AND THE PHYSICAL/CHEMICAL
               ENVIRONMENTAL VARIABLES IN SUFFICIENT DETAIL TO FACILITATE
               THE STAGE I ENDANGERMENT ASSESSMENT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100035         DATE: 01/00/86          PAGES: 101
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - SURFACE WATER AND SEDIMENT
               INVESTIGATION DATA REPORT - THIRD SAMPLING - FALL 1985"--THE
               GOAL OF STAGE I REMEDIAL INVESTIGATION IS TO CHARACTERIZE
               CONTAMINATION AND PHYSICAL/CHEMICAL ENVIRONMENTAL VARIABLES
               SO THAT AN ENDANGERMENT ASSESSMENT CAN BE PERFORMED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100036         DATE: 10/00/85E         PAGES: 115
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - SURFACE WATER AND SEDIMENT
               INVESTIGATION DATA REPORT - SECOND SAMPLING - SUMMER 1985"--
               THE GOAL OF THE STAGE I REMEDIAL INVESTIGATION IS TO
               CHARACTERIZE CONTAMINATION AND PHYSICAL/CHEMICAL
               ENVIRONMENTAL VARIABLES SO THAT AN EA CAN BE DONE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100037         DATE: 07/00/85          PAGES: 98
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS - SURFACE WATER AND SEDIMENT
               INVESTIGATION DATA REPORT - SPRING 1985"--THE GOAL OF THE
               STAGE I REMEDIAL INVESTIGATION IS TO CHARACTERIZE
               CONTAMINATION AND PHYSICAL/CHEMICAL ENVIRONMENTAL PARAMETERS
               SO THAT AN ENDANGERMENT ASSESSMENT CAN BE PERFORMED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100038         DATE: 04/00/81          PAGES: 3
TITLE/SUBJECT: "THE INFLUENCE OF LEAD, CADMIUM, AND NICKEL ON THE GROWTH OF
               RYEGRASS AND OATS". VOL. 62:81-89.
       AUTHOR: ALLINSON, D.W., ET AL.
 ORGANIZATION: PLANT AND SOIL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100039         DATE: 07/00/78E         PAGES: 4
TITLE/SUBJECT: "ARSENIC LEVELS IN CROPS IRRIGATED WITH WATER CONTAINING
               MSMA"--EXAMINATION OF THE POTENTIAL FOR MSMA (MONOSODIUM
               METHANEARSONATE), AN ORGANIC ARSENICAL POSTEMERGENCE
               HERBICIDE, FOR CONTROL OF IRRIGATION DITCHBANK WEEDS.
       AUTHOR: ANDERSON, L.W.J., ET AL.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100040         DATE: 00/00/72          PAGES: 3
TITLE/SUBJECT: "TECHNICAL REPORTS - LEAD UPTAKE AND CORN GROWTH WITH
               SOIL-APPLIED LEAD". VOL. 1(1):92-94. THE OBJECT OF THE STUDY
               WAS TO DETERMINE THE EFFECT OF SOIL-APPLIED LEAD ON
               EMERGENCE, GROWTH, LEAD CONTENT OF GRAIN AND STOVER, AND
               GRAIN YIELD OF FIELD-GROWN CORN.
       AUTHOR: BAUMHARDT, G.R., ET AL.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100041         DATE: 00/00/71E         PAGES: 15
TITLE/SUBJECT: "TOXIC EFFECTS OF AQUEOUS AMMONIA, COPPER, ZINC, LEAD,
               BORON, AND MANGANESE ON ROOT GROWTH". E.W. CARSON, EDITOR,
               IN: "THE PLANT ROOT AND ITS ENVIRONMENT"; UNIVERSITY
               PRESS OF VIRGINIA, CHARLOTTESVILLE. PAGES 669-683.
       AUTHOR: BENNETT, A.C.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100042         DATE: 00/00/75          PAGES: 5
TITLE/SUBJECT: "GROWTH AND CADMIUM ACCUMULATION OF PLANTS GROWN ON A SOIL
               TREATED WITH A CADMIUM-ENRICHED SEWAGE SLUDGE"
               VOL. 4(2):207-211
       AUTHOR: BINGHAM, F.T., ET AL.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100043         DATE: 00/00/76          PAGES: 3
TITLE/SUBJECT: "YIELD AND CADMIUM ACCUMULATION OF FORAGE SPECIES IN
               RELATION TO CADMIUM CONTENT OF SLUDGE-AMENDED SOIL"
               VOL. 5(1):57-59.
       AUTHOR: BINGHAM, F.T., ET AL.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100044 DATE: 11/00/71 PAGES: 2
TITLE/SUBJECT: "CROP RESPONSE TO EXCESSIVE ZINC FERTILIZATION OF ALKALINE SOIL". VOL. 63:874-876. THE OBJECTIVE OF THIS RESEARCH WAS TO EVALUATE THE TOLERANCE OF ENCONOMIC PLANT SPECIES TO EXCESSIVE LEVELS OF AVAILABLE Zn IN THE SOIL.
AUTHOR: BOAWN, LOUIS C., ET AL.
ORGANIZATION: AGRONOMY JOURNAL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100045 DATE: 09/00/78 PAGES: 5
TITLE/SUBJECT: "DIFFERENTIAL RESPONSE OF SOYBEAN VARIETIES TO SOIL CADMIUM". VOL. 70:756-760.
AUTHOR: BOGGESS, SAM F., ET AL.
ORGANIZATION: AGRONOMY JOURNAL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100046 DATE: 00/00/00 PAGES: 18
TITLE/SUBJECT: "CHAPTER 10: THE DISTRIBUTION AND MOBILIZATION OF MINOR ELEMENTS IN SOILS" AND "CHAPTER 11: ELEMENTAL UPTAKE BY PLANTS" IN: "GEOBOTANY AND BIOGEOCHEMISTRY IN MINERAL EXPLORATION".
AUTHOR: BROOKS, R.R.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100047 DATE: 00/00/85 PAGES: 8
TITLE/SUBJECT: "GRASS ROOT PENETRATION IN TOSCO II PROCESSED OIL SHALE" IN: PROCEEDINGS OF THE 2ND ANNUAL MEETING OF THE AMERICAN SOCIETY FOR SURFACE MINING AND RECLAMATION. DISCUSSES TOSCO II PROCESSED SHALE REVEGETATION PLOTS AT THE COLONY SHALE OIL PROJECT IN GARFIELD COUNTY, COLORADO.
AUTHOR: BUCKNER, DAVID L. (Ph.D.)
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100048 DATE: 00/00/82 PAGES: 4
TITLE/SUBJECT: "A COMPARISON OF CADMIUM AND ZINC ACCUMULATION BY FOUR CULTIVARS OF BARLEY GROWN IN SLUDGE-AMENDED SOILS" VOL. 11(3):409-411.
AUTHOR: CHANG, A.C., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100049 DATE: 00/00/82 PAGES: 7
TITLE/SUBJECT: "CADMIUM AND LEAD CONTENT OF VEGETABLE CROPS GROWN ON LAND WITH A HISTORY OF SEWAGE SLUDGE APPLICATION" (SERIES B) 4:231-237
AUTHOR: CHUMBLEY, C.G., ET AL.
ORGANIZATION: ENVIRONMENTAL POLLUTION
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021702         NUMBER: 100056         DATE: 00/00/84          PAGES: 12
TITLE/SUBJECT: "CELLULOLYTIC ACTIVITY AND ROOT BIOMASS PRODUCTION IN SOME
               METAL-CONTAMINATED SOILS". (SERIES A) VOL. 33:63-74.
       AUTHOR: KHAN, D.H., ET AL.
 ORGANIZATION: ENVIRONMENTAL POLLUTION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100057         DATE: 00/00/73          PAGES: 6
TITLE/SUBJECT: "UPTAKE OF LEAD BY ALFALFA AND CORN FROM SOIL AND AIR"--VOL.
               115(6): 455-460.
       AUTHOR: LAGERWERFF, J.V., ET AL.
 ORGANIZATION: SOIL SCIENCE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100058         DATE: 00/00/65          PAGES: 11
TITLE/SUBJECT: "ARSENIC". IN: H.D. CHAPMAN, DIAGNOSTIC CRITERIA FOR PLANTS
               AND SOILS. PUBLISHED PRIVATELY BY AUTHOR AT 830 S.
               UNIVERSITY DR. RIVERSIDE, CA 92507. PAGES 13-23
       AUTHOR: LIEBIG, GEORGE F. JR.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100059         DATE: 00/00/67          PAGES: 22
TITLE/SUBJECT: "CHAPTER 2 - THE AQUATIC ENVIRONMENT" AND "CHAPTER 3 -
               BIOTIC RESPONSES TO THE AQUATIC ENVIRONMENT" PAGES 11-50 IN:
               "BIOLOGICAL ASSOCIATED PROBLEMS IN FRESHWATER ENVIRONMENTS
       AUTHOR: MACKENTHUN, KENNETH M., ET AL.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100060         DATE: 08/00/76          PAGES: 10
TITLE/SUBJECT: "CADMIUM IN DIFFERENT PLANT SPECIES AND ITS AVAILABILITY IN
               SOILS AS INFLUENCED BY ORGANIC MATTER AND ADDITIONS OF LIME,
               P, Cd, AND Zn". VOL. 56(3):129-138.
       AUTHOR: MACLEAN, A.J.
 ORGANIZATION: CANADIAN JOURNAL OF SOIL SCIENCE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100061         DATE: 00/00/79          PAGES: 4
TITLE/SUBJECT: "THE EFFECT OF SOIL-ADDED CADMIUM ON SEVERAL PLANT SPECIES"-
               VOL. 8(2): 229-232.
       AUTHOR: MILES, L.J.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100050           DATE: 00/00/79          PAGES: 43
TITLE/SUBJECT: "ELEMENT CONCENTRATIONS TOXIC TO PLANTS, ANIMALS, AND MAN"--
               AN APPRAISAL OF THE TOXICITY HAZARD TO PLANTS, ANIMALS AND
               MAN FROM NATURAL AND MANMADE ELEMENT CONCENTRATIONS OF
               ENVIRONMENTAL CONCERN. BULLETIN 1466
       AUTHOR: GOUGH, LARRY P., ET AL.
 ORGANIZATION: U.S. GEOLOGICAL SURVEY BULLETIN
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100051           DATE: 00/00/74          PAGES: 4
TITLE/SUBJECT: "PLANT UPTAKE OF CADMIUM AS INFLUENCED BY CATION EXCHANGE
               CAPACITY, ORGANIC MATTER, ZINC, AND SOIL TEMPERATURE"
               VOL. 3(2):180-183.
       AUTHOR: HAGHIRI, F.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100052           DATE: 05/00/82          PAGES: 6
TITLE/SUBJECT: "DIFFERENTIAL ACCUMULATIONS OF CADMIUM AND ZINC BY CORN
               HYBRIDS GROWN ON SOIL AMENDED WITH SEWAGE SLUDGE"
               VOL. 74:469-474
       AUTHOR: HINESLY, T.D., ET AL.
 ORGANIZATION: AGRONOMY JOURNAL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100053           DATE: 00/00/73          PAGES: 5
TITLE/SUBJECT: "CADMIUM UPTAKE BY EIGHT FOOD CROPS AS INFLUENCED BY VARIOUS
               SOIL LEVELS OF CADMIUM". VOL. 4:7-15.
       AUTHOR: JOHN, MATT K.
 ORGANIZATION: ENVIRONMENTAL POLLUTION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100054           DATE: 06/00/72          PAGES: 3
TITLE/SUBJECT: "CADMIUM CONTAMINATION OF SOIL AND ITS UPTAKE BY OATS"--
               VOL. 6(6): 555-557.
       AUTHOR: JOHN MATT K., ET AL.
 ORGANIZATION: ENVIRONMENTAL SCIENCE & TECHNOLOGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100055           DATE: 11/00/76          PAGES: 10
TITLE/SUBJECT: "THE UPTAKE OF NATIVE AND APPLIED LEAD BY ALFALFA AND
               BROMEGRASS FROM SOIL". VOL. 56:485-494.
       AUTHOR: KARAMANOS, R.E., ET AL.
 ORGANIZATION: CANADIAN JOURNAL OF SOIL SCIENCE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100067           DATE: 00/00/84      PAGES: 15
TITLE/SUBJECT: "ELEMENT CONCENTRATIONS IN SOILS AND OTHER SURFICIAL
               MATERIALS OF THE CONTERMINOUS UNITED STATES". PAPER 1270.
               AN ACCOUNT OF THE CONCENTRATIONS OF 50 CHEMICAL ELEMENTS IN
               SAMPLES OF SOILS AND OTHER REGOLITHS.
       AUTHOR: SHACKLETTE, HANSFORD., ET AL.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100068           DATE: 02/00/81      PAGES: 10
TITLE/SUBJECT: "UPTAKE OF CADMIUM BY LETTUCE (Lactuca sativa) AS INFLUENCED
               BY ITS ADDITION TO A SOIL AS INORGANIC FORMS OR IN SEWAGE
               SLUDGE". VOL. 61:19-28.
       AUTHOR: SINGH, S. SHAH
 ORGANIZATION: CANADIAN JOURNAL OF SOIL SCIENCE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100068A          DATE: 00/00/72      PAGES: 3
TITLE/SUBJECT: "ARSENIC PHYTOTOXICITY ON A PLAINFIELD SAND AS AFFECTED BY
               FERRIC SULFATE OF ALUMINUM SULFATE"--VOL. 1(3):  301-303.
       AUTHOR: STEEVENS, D.R., ET AL.
 ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100069           DATE: 00/00/81      PAGES: 14
TITLE/SUBJECT: "INFLUENCE OF LEAD, CADMIUM, AND NICKEL ON THE GROWTH OF
               MEDICAGO SATIVA (L.)"--VOL. 60:  223-236.
       AUTHOR: TAYLOR, R.W., ET AL.
 ORGANIZATION: PLANT AND SOIL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100070           DATE: 00/00/72      PAGES: 17
TITLE/SUBJECT: "RELATIONSHIPS BETWEEN MACRO- AND MICRONUTRIENT NUTRITION
               OF SLASH PINE ON THREE COASTAL PLAIN SOILS"--VOL. 36:
               331-347.
       AUTHOR: VAN LEAR, DAVID H., ET AL.
 ORGANIZATION: PLANT AND SOIL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100070A          DATE: 08/00/77      PAGES: 5
TITLE/SUBJECT: "OCCURRENCE AND DISTRIBUTION OF ARSENIC IN SOILS AND
               PLANTS"--VOL. 19:  67-71.
       AUTHOR: WALSH, LEO M., ET AL.
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100062 DATE: 00/00/77 PAGES: 3
TITLE/SUBJECT: "INTERACTIONS OF LEAD AND CADMIUM ON METAL UPTAKE AND GROWTH OF CORN PLANTS"--VOL. 6(1): 18-20.
AUTHOR: MILLER, JOSEPH E., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100063 DATE: 00/00/78 PAGES: 7
TITLE/SUBJECT: "YIELD AND METAL COMPOSITION OF LETTUCE AND WHEAT GROWN ON SOILS AMENDED WITH SEWAGE SLUDGE ENRICHED WITH CADMIUM, COPPER, NICKEL, AND ZINC"--VOL. 7(2): 165-171.
AUTHOR: MITCHELL, G.A., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100063A DATE: 00/00/75 PAGES: 5
TITLE/SUBJECT: "RESPONSE OF CORN TO ZINC AND CHROMIUM IN MUNICIPAL WASTES APPLIED TO SOIL"--VOL. 4(2): 170-174.
AUTHOR: MORTVEDT, J.J., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100064 DATE: 00/00/77 PAGES: 8
TITLE/SUBJECT: "EFFECT OF CHELATING AGENTS ON PHYTOTOXICITY OF LEAD AND LEAD TRANSPORT"--VOL. 8(9): 733-740.
AUTHOR: PATEL, P.M., ET AL.
ORGANIZATION: COMMUN. IN SOIL SCIENCE AND PLANT ANALYSIS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100065 DATE: 00/00/82 PAGES: 7
TITLE/SUBJECT: "CONCENTRATIONS OF SIX TRACE METALS IN SOME MAJOR MINNESOTA SOIL SERIES"--VOL.11(3): 416-422.
AUTHOR: PIERCE, F.J., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100066 DATE: 00/00/00 PAGES: 33
TITLE/SUBJECT: "CHAPTER 5 - AVAILABILITY OF TRACE ELEMENTS IN THE SOIL" PART I. IN: "FUNDAMENTAL ASPECTS OF POLLUTION CONTROL AND AND ENVIRONMENTAL SCIENCE" R.J. WAKEMAN, EDITOR.
AUTHOR: PURVES, D.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100071 DATE: 00/00/20 PAGES: 125
TITLE/SUBJECT: "ROOT DEVELOPMENT IN THE GRASSLAND FORMATION - CORRELATION OF THE ROOT SYSTEMS OF NATIVE VEGETATION AND CROP PLANTS". PUBLICATION NUMBER 292.
AUTHOR: WEAVER, JOHN E.
ORGANIZATION: CARNEGIE INSTITUTION OF WASHINGTON
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100072 DATE: 00/00/58 PAGES: 24
TITLE/SUBJECT: "SUMMARY AND INTERPRETATION OF UNDERGROUND DEVELOPMENT IN NATURAL GRASSLAND COMMUNITIES"--VOL 28(1): 55-78.
AUTHOR: WEAVER, J.E.
ORGANIZATION: ECOLOGICAL MONOGRAPHS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100073 DATE: 08/12/49 PAGES: 2
TITLE/SUBJECT: "QUANTITATIVE STUDY OF ROOT SYSTEMS IN DIFFERENT SOIL TYPES" --VOL 110: 164-165.
AUTHOR: WEAVER J.E., ET AL.
ORGANIZATION: SCIENCE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100074 DATE: 00/00/84 PAGES: 10
TITLE/SUBJECT: "UPTAKE OF ARSENIC AND MERCURY FROM SOIL BY BERMUDAGRASS CYNODON DACTYLON"--VOL. 33:133-142.
AUTHOR: WEAVER R.W., ET AL.
ORGANIZATION: ENVIRONMENTAL POLLUTION
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100075 DATE: 00/00/80 PAGES: 6
TITLE/SUBJECT: "ZINC, CADMIUM AND MANGANESE UPTAKE BY SOYBEAN FROM TWO ZINC- AND CADMIUM-AMENDED COASTAL PLAIN SOILS"--VOL. 44: 308-313.
AUTHOR: WHITE, M.C., ET AL.
ORGANIZATION: SOIL SCIENCE SOCIETY OF AMERICA JOURNAL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100076 DATE: 00/00/73 PAGES: 6
TITLE/SUBJECT: "THE CHEMISTRY AND PHYTOTOXICITY OF ARSENIC IN SOILS: II. EFFECTS OF TIME AND PHOSPHORUS" VOL. 37:254-259.
AUTHOR: WOOLSON, E.A., ET AL.
ORGANIZATION: SOIL SCI. SOC. AMER. PROC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021702            NUMBER: 100077         DATE: 07/00/76          PAGES: 546
TITLE/SUBJECT: "QUALITY CRITERIA FOR WATER" (PB-263 943)
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702            NUMBER: 100078         DATE: 08/00/76          PAGES: 168
TITLE/SUBJECT: "AIR QUALITY DATA FOR METALS 1970 THROUGH 1974 FROM THE
               NATIONAL AIR SURVEILLANCE NETWORKS" (PB-260 905)
               USEPA CONTRACT NO. 600/4-76-041, RESEARCH TRIANGLE PARK,
               NORTH CAROLINA.
       AUTHOR: AKLAND, GERALD G.
 ORGANIZATION: USEPA, OFFICE OF RESEARCH AND DEVELOPMENT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702            NUMBER: 100079         DATE: 11/00/77          PAGES: 428
TITLE/SUBJECT: "MULTIMEDIA ENVIRONMENTAL GOALS FOR ENVIRONMENTAL
               ASSESSMENT, VOLUME II.  MEG CHARTS AND BACKGROUND
               INFORMATION" (PB 276 920)
       AUTHOR: NOT INDICATED
 ORGANIZATION: RESEARCH TRIANGLE PARK, NORTH CAROLINA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: INDUSTRIAL ENVIRONMENTAL RESEARCH LAB
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702            NUMBER: 100080         DATE: 12/00/77          PAGES: 306
TITLE/SUBJECT: "AIR QUALITY CRITERIA FOR LEAD" (EPA-600/8-77-017)--THIS
               DOCUMENT SUMMARIZES CURRENT KNOWLEDGE ABOUT THE
               RELATIONSHIPS OF AIRBORNE LEAD TO MAN AND HIS ENVIRONMENT.
       AUTHOR: AKLAND, GERALD G., ET AL.
 ORGANIZATION: USEPA, OFFICE OF RESEARCH AND DEVELOPMENT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702            NUMBER: 100081         DATE: 12/00/79          PAGES: 366
TITLE/SUBJECT: "INDUSTRIAL SOURCE COMPLEX (ISC) DISPERSION MODEL USER'S
               GUIDE. VOLUME I" (EPA-450/4-79-030)
       AUTHOR: BOWERS, J.F., ET AL.
 ORGANIZATION: H.E. CRAMER CO., INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA, OFFICE OF AIR QUALITY PLANNING AND STANDARDS
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702            NUMBER: 100082         DATE: 10/00/80          PAGES: 193
TITLE/SUBJECT: "AMBIENT WATER QUALITY CRITERIA FOR CADMIUM"
               (EPA-440/5-80-025) OFFICE OF WATER REULATIONS AND STANDARD
               CRITERIA AND STANDARDS DIVISION. WASHINGTON D.C.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100083         DATE: 10/00/80          PAGES: 167
TITLE/SUBJECT: "AMBIENT WATER QUALITY CRITERIA FOR COPPER"
               (EPA-440/5-80-036) OFFICE OF WATER REGULATIONS AND STANDARDS
               CRITERIA AND STANDARDS DIVISION. WASHINGTON, D.C.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100084         DATE: 10/00/80          PAGES: 212
TITLE/SUBJECT: "AMBIENT WATER QUALITY CRITERIA FOR ARSENIC"
               (EPA-440/5-80-021) OFFICE OF WATER REGULATION AND STANDARDS
               CRITERIA AND STANDARDS DIVISION. WASHINGTON, D.C.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100085         DATE: 10/00/80          PAGES: 160
TITLE/SUBJECT: "AMBIENT WATER QUALITY CRITERIA FOR LEAD"
               (EPA-440/5-80-057) OFFICE OF WATER REGULATIONS AND STANDARDS
               CRITERIA AND STANDARDS DIVISION. WASHINGTON, D.C.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100086         DATE: 10/00/80          PAGES: 172
TITLE/SUBJECT: "AMBIENT WATER QUALITY CRITERIA FOR ZINC"
               (EPA-440/5-80-079) OFFICE OF WATER REGULATIONS AND STANDARDS
               CRITERIA AND STANDARDS DIVISION. WASHINGTON, D.C.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100087         DATE: 10/00/81          PAGES: 359
TITLE/SUBJECT: "HEALTH ASSESSMENT DOCUMENT FOR CADMIUM"--THE PURPOSE OF THE
               DOCUMENT IS TO PROVIDE A CRITICAL ASSESSMENT OF HEALTH
               EFFECTS AND POTENTIAL RISK TO HUMAN HEALTH ASSOCIATED WITH
               ENVIRONMENTAL EXPOSURE TO CADMIUM. (EPA-600/8-81-023)
       AUTHOR: THUN, MICHEAL J., ET AL.
 ORGANIZATION: RESEARCH TRIANGLE PARK, NORTH CAROLINA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA, OFFICE OF AIR QUALITY PLANNING AND STANDARDS
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100088         DATE: 08/00/82          PAGES: 173
TITLE/SUBJECT: "CHARACTERIZATION OF PM 10 AND TSP (TOTALLY SUSPENDED
               PARTICLES) AIR QUALITY AROUND WESTERN SURFACE COAL MINES"
               (EPA 450/4-83-004)
       AUTHOR: NOT INDICATED
 ORGANIZATION: PEDCO ENVIRONMENTAL INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702 NUMBER: 100089 DATE: 07/00/84 PAGES: 191
TITLE/SUBJECT: "CONTRACT LABORATORY PROGRAM -STATEMENT OF WORK (SOW) - INORGANIC ANALYSIS MULTI-MEDIA, MULTI-CONCENTRATION - SOW NO. 784 - BASED ON: CAUCUS INORGANICS PROTOCOL"--CONTRACTOR REQUIREMENTS UNDER THE EPA'S CONTRACT LABORATORY PROGRAM.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100090 DATE: 03/00/84 PAGES: 347
TITLE/SUBJECT: "HEALTH ASSESSMENT DOCUMENT FOR INORGANIC ARSENIC - FINAL REPORT (EPA 600/8-83-021F)"--SUMMARIZATION OF CURRENT SCIENTIFIC INFORMATION REGARDING THE EFFECTS OF INORGANIC ARSENIC ON MAN AND THE ENVIRONMENT.
AUTHOR: JACOBSON-KRAM, DAVID
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100091 DATE: 04/00/84 PAGES: 183
TITLE/SUBJECT: "UPDATED MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF CADMIUM - ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR CADMIUM (MAY 1981) EPA-600/8-81-023". (EPA-600/8-83-025B)
AUTHOR: ALBERT, ROY E. (M.D.)
ORGANIZATION: USEPA, OFFICE OF RESEARCH AND DEVELOPMENT
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100092 DATE: 09/00/84 PAGES: 1336
TITLE/SUBJECT: "AIR QUALITY CRITERIA FOR LEAD" (VOLUMES I THROUGH IV)--THE DOCUMENT EVALUATES AND ASSESSES SCIENTIFIC INFORMATION ON THE HEALTH AND WELFARE EFFECTS ASSOCIATED WITH EXPOSURE TO VARIOUS CONCENTRATIONS OF LEAD IN AMBIENT AIR. (EPA-600/8-83-028B)
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100093 DATE: 01/09/85 PAGES: 7
TITLE/SUBJECT: "PROPOSED GUIDELINES FOR THE HEALTH RISK ASSESSMENT OF CHEMICAL MIXTURES"--SOLICITATION FOR PUBLIC COMMENT ON THE PROPOSED GUIDELINES; COMMENTS WILL BE TAKEN INTO ACCOUNT WHEN THE GUIDELINES ARE REVISED.
AUTHOR: NOT INDICATED
ORGANIZATION: FEDERAL REGISTER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100094 DATE: 02/12/85 PAGES: 5
TITLE/SUBJECT: APPENDIX WITH A MEMORANDUM ON THE SUBJECT OF CERCLA COMPLIANCE WITH OTHER ENVIRONMENTAL STATUTES WHICH SETS FORTH THE EPA POLICY ON THE APPLICABILITY OF OTHER STATE AND FEDERAL ENVIRONMENTAL AND PUBLIC HEALTH STATUTES TO ACTIONS TAKEN PURSUANT TO SECTIONS 104 AND 106 OF CERCLA.
AUTHOR: NOT INDICATED
ORGANIZATION: FEDERAL REGISTER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100095 DATE: 04/00/85 PAGES: 83
TITLE/SUBJECT: "GUIDANCE ON FEASIBILITY STUDIES UNDER CERCLA"--A GUIDANCE DOCUMENT INTENDED TO PROVIDE A MORE DETAILED STRUCTURE FOR IDENTIFYING, EVALUATING, AND SELECTING REMEDIAL ACTION ALTERNATIVES UNDER CERCLA AND THE NATIONAL CONTINGENCY PLAN.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA, OFFICE OF RESEARCH AND DEVELOPMENT
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100097 DATE: 06/00/85 PAGES: 204
TITLE/SUBJECT: "UPDATED MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF CADMIUM - FINAL REPORT - ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR CADMIUM (MAY 1981) EPA/600/8-81/023" (EPA-600/8-83-025F)
AUTHOR: ALBERT, ROY E. (M.D.)
ORGANIZATION: USEPA, OFFICE OF RESEARCH AND DEVELOPMENT
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100098 DATE: 09/30/85 PAGES: 14
TITLE/SUBJECT: "LEAD - HEALTH ADVISORY"--INFORMATION ON HEALTH EFFECTS, ANALYTICAL METHODOLOGY AND TREATMENT TECHNOLOGY THAT WOULD BE USEFUL IN DEALING WITH CONTAMINATION OF DRINKING WATER.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA, OFFICE OF DRINKING WATER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100099 DATE: 10/01/85 PAGES: 183
TITLE/SUBJECT: "DRAFT SUPERFUND PUBLIC HEALTH EVALUATION MANUAL"--THIS MANUAL ESTABLISHES A FRAMEWORK FOR ANALYZING PUBLIC HEALTH RISKS AT SUPERFUND SITES AND FOR DEVELOPING GOALS FOR REMEDIAL ALTERNATIVES THAT ARE BASED ON ARAR'S OF OTHER LAWS, WHERE AVAILABLE, OR RISK ANALYSIS WHERE NOT AVAILABLE.
AUTHOR: NOT INDICATED
ORGANIZATION: CLEMENT & ASSOCIATES, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100100 DATE: 11/13/85 PAGES: 87
TITLE/SUBJECT: "NATIONAL PRIMARY DRINKING WATER REGULATIONS; SYNTHETIC ORGANIC CHEMICALS, INORGANIC CHEMICALS, AND MICROORGANISMS; PROPOSED RULE (40 CFR PART 141)"
AUTHOR: NOT INDICATED
ORGANIZATION: FEDERAL REGISTER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100101 DATE: 05/00/87 PAGES: 434
TITLE/SUBJECT: "REMEDIAL INVESTIGATION OF SOILS, VEGETATION AND LIVESTOCK FOR EAST HELENA SITE (ASARCO), EAST HELENA, MONTANA - EPA WORK ASSIGNMENT NUMBER 68-8L30.0" CONTRACT NO. 68-01-7251.
AUTHOR: NOT INDICATED
ORGANIZATION: CH2M HILL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021702         NUMBER: 100102          DATE: 08/19/87        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF 45 OF THE 123 MILL CREEK RI/FS REFERENCES
               THAT WERE REQUESTED, AND AN ATTACHED LIST SHOWING THE
               DISPOSITION OF EACH REFERENCE LISTED.
       AUTHOR: GLASS, GREGORY
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021702         NUMBER: 100103          DATE: 00/00/00        PAGES: 20
TITLE/SUBJECT: A CODING SYSTEM AND A LIST INDICATING THE DISPOSITION OF
               REFERENCES WHICH WERE REQUESTED FROM TETRA TECH FOR THE
               ADMINISTRATIVE RECORD.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100104          DATE: 02/00/72        PAGES: 59
TITLE/SUBJECT: "ANACONDA SETTLING POND SYSTEM ANACONDA, MONTANA - A
               PRELIMINARY REPORT ON EXISTING CONDITIONS"--THE OBJECTIVE OF
               THE INVESTIGATION WAS TO DETERMINE THE FLOW, VOLUME, AND
               QUALITY OF WATERS IN THE POND SYSTEM AREA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100105          DATE: 10/18/84        PAGES: 16
TITLE/SUBJECT: RESULTS FROM A SEPTEMBER 5, 6, AND 7, 1984 CURSORY SOIL
               SURVEY OF THE AREA AROUND ANACONDA, MONTANA ALONG WITH A
               DRAFT MAP OF THE SOIL SAMPLING LOCATIONS.
       AUTHOR: RICHARDS, BART
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WINDORSKI, J.C.
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100106          DATE: 04/16/86        PAGES: 153
TITLE/SUBJECT: "ANACONDA - MILL CREEK ENDANGERMENT ASSESSMENT AIR QUALITY/
               METEOR. DATA--MISC PRINTOUTS: WORKSHEETS, SPSS CORRELATIONS
               DATABASE"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100107          DATE: 00/00/85        PAGES: 286
TITLE/SUBJECT: "ANACONDA - JOHNSON'S CURVE METEOROLOGICAL DATA - 1985"--
               (COMPUTER PRINTOUTS)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702 NUMBER: 100108 DATE: 00/00/00 PAGES: 22
TITLE/SUBJECT: "ANACONDA - AIR QUALITY SAMPLER DATA 1983-1986"--(COMPUTER PRINTOUTS)
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100109 DATE: 00/00/73 PAGES: 3
TITLE/SUBJECT: "THE INFLUENCE OF SOIL ARSENIC ON THE GROWTH OF LOWBUSH BLUEBERRY" VOL. 2(3):335-337.
AUTHOR: ANASTASIA, FRANK B., ET AL.
ORGANIZATION: JOURNAL OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100110 DATE: 00/00/79 PAGES: 16
TITLE/SUBJECT: "ENVIRONMENTAL LEAD AND CHILDREN: THE OMAHA STUDY"--VOL.5: 855-870.
AUTHOR: ANGLE, CAROL R., ET AL.
ORGANIZATION: JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100111 DATE: 00/00/67E PAGES: 4
TITLE/SUBJECT: "THE DETERMINATION AND DISTRIBUTION OF TOXIC LEVELS OF ARSENIC IN A SILT LOAM"--VOL. 15: 121-124.
AUTHOR: ARNOTT, JAMES T., ET AL.
ORGANIZATION: WEEDS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100112 DATE: 00/00/77 PAGES: 13
TITLE/SUBJECT: "A NATIONWIDE SURVEY OF HEAVY METAL ABSORPTION IN CHILDREN LIVING NEAR PRIMARY COPPER, LEAD, AND ZINC SMELTERS"--VOL. 106(4): 261-273.
AUTHOR: BAKER, EDWARD L. JR., ET AL.
ORGANIZATION: AMERICAN JOURNAL OF EPIDEMIOLOGY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100113 DATE: 04/00/85 PAGES: 96
TITLE/SUBJECT: "HISTORICAL WATER-QUALITY DATA FOR THE CLARK FORK (RIVER) AND THE MOUTHS OF SELECTED TRIBUTARIES, WESTERN MONTANA"--OPEN-FILE REPORT 85-168.
AUTHOR: BROSTEN, T.M., ET AL.
ORGANIZATION: U.S. GEOLOGICAL SURVEY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021702         NUMBER: 100114            DATE: 00/00/81           PAGES: 11
TITLE/SUBJECT: "THE ARNHEM LEAD STUDY--LEAD UPTAKE BY 1- TO 3-YEAR OLD
                CHILDREN LIVING IN THE VICINITY OF A SECONDARY LEAD SMELTER
                IN ARNHEM, THE NETHERLANDS". VOL. 25:441-448.
       AUTHOR: BRUNEKREEF, BERT., ET AL.
 ORGANIZATION: ENVIRONMENTAL RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100115            DATE: 00/00/84           PAGES: 48
TITLE/SUBJECT: "THE POTENTIAL FOR HEAVY METAL EXPOSURE FROM URBAN GARDENS
                AND SOILS". IN: J.R. PREER, EDITOR, "PROCEEDINGS OF A
                SYMPOSIUM ON HEAVY METALS IN URBAN GARDENS" PAGES 37-84.
       AUTHOR: CHANEY, RUFUS L., ET AL.
 ORGANIZATION: UNIVERSITY OF THE DISTRICT OF COLUMBIA EXTENSION SERVICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100116            DATE: 12/12/66           PAGES: 6
TITLE/SUBJECT: "MOVEMENT AND PERSISTENCE OF METHANEARSONATES IN SOIL".
                VOL. 15:299-304.
       AUTHOR: DICKENS, RAY., ET AL.
 ORGANIZATION: WEEDS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100117            DATE: 08/00/14           PAGES: 2:
TITLE/SUBJECT: "DETERMINATION OF GASES IN SMELTER FLUES; AND NOTES ON THE
                DETERMINATION OF DUST LOSSES AT THE WASHOE REDUCTION WORKS,
                ANACONDA, MONTANA". TRANSACTION OF THE AMERICAN INSTITUTE
                OF MINING ENGINEERS. 156:648-689.
       AUTHOR: DUNN, EDGAR M.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100118            DATE: 00/00/80           PAGES: 9
TITLE/SUBJECT: "MORTALITY STUDIES OF SMELTER WORKERS"--VOL. 1:  251-259.
       AUTHOR: ENTERLINE, PHILIP E., ET AL.
 ORGANIZATION: AMERICAN JOURNAL OF INDUSTRIAL MEDICINE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100119            DATE: 05/10/85           PAGES: 14
TITLE/SUBJECT: "ASSESSMENT OF HEALTH RISK FROM EXPOSURE TO CONTAMINATED
                SOIL". VOL. 5(4):289-302.
       AUTHOR: HAWLEY, JOHN K.
 ORGANIZATION: RISK ANALYSIS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100120          DATE: 04/00/83         PAGES: 22
TITLE/SUBJECT: "SUMMIT AND DEER LODGE VALLEYS LONG-TERM ENVIRONMENTAL
               REHABILITATION STUDY - BUTTE-ANACONDA, MONTANA - VOLUME
               VIII - OPPORTUNITY PONDS"
       AUTHOR: NOT INDICATED
 ORGANIZATION: HYDROMETRICS
    ADDRESSEE: WINDORSKI, JIM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100121          DATE: 00/00/83         PAGES: 7
TITLE/SUBJECT: "TUMORIGENICITY OF ARSENIC TRIOXIDE TO THE LUNG IN SYRIAN
               GOLDEN HAMSTERS BY INTERMITTENT INSTALLATIONS".
               VOL. 21:141-147.
       AUTHOR: ISHINISHI, NOBURU., ET AL.
 ORGANIZATION: CANCER LETTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100122          DATE: 07/21/86         PAGES: 2
TITLE/SUBJECT: CONTACT REPORT--BILL JENKINS OF THE PEGASUS GOLD MINING CO.
               AND PAM DERKEY (?) OF MT. BON WERE CONTACTED REGARDING THE
               SUBJECT OF THE GERMAN GULCH.
       AUTHOR: JENKINS, BILL
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100123          DATE: 00/00/84         PAGES: 2
TITLE/SUBJECT: "TRACE ELEMENTS IN SOILS AND PLANTS"
       AUTHOR: KABATA-PENDIAS ALINA (PH.D.),ET AL.
 ORGANIZATION: CRC PRESS, BOCA RATON, FLORIDA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100124          DATE: 00/00/84         PAGES: 47
TITLE/SUBJECT: "HEALTH IMPLICATIONS OF 2,3,7,8-TETRACHLORODIBENZODIOXIN
               (TCDD) CONTAMINATION OF RESIDENTIAL SOIL"--VOL. 14:  47-93.
       AUTHOR: KIMBROUGH, RENATE D., ET AL.
 ORGANIZATION: JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100125          DATE: 10/00/62         PAGES: 30
TITLE/SUBJECT: "PRELIMINARY REPORT ON THE GEOLOGY AND GROUND-WATER
               RESOURCES OF THE SOUTHERN PART OF THE DEER LODGE VALLEY,
               MONTANA". BULLETIN 31.
       AUTHOR: KONIZESKI, R.L., ET AL.
 ORGANIZATION: MONTANA BUREAU OF MINES AND GEOLOGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100126        DATE: 00/00/68          PAGES: 4
TITLE/SUBJECT: "GEOLOGY AND GROUND-WATER RESOURCES OF THE DEER LODGE
               VALLEY, MONTANA". GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1862.
       AUTHOR: KONIZESKI, R.L., ET AL.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100127        DATE: 00/00/76          PAGES: 1
TITLE/SUBJECT: "TRACE ELEMENT MOVEMENT IN SOILS.  INFLUENCE OF SOIL
               PHYSICAL AND CHEMICAL PROPERTIES" VOL. 121:350-359.

       AUTHOR: KORTE, N.E., ET AL.
 ORGANIZATION: SOIL SCIENCE SOCIETY OF AMERICA JOURNAL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100128        DATE: 00/00/00          PAGES: 7
TITLE/SUBJECT: "41.  ARSENIC". IN: W.N. ROM, EDITOR, "ENVIRONMENTAL AND
               OCCUPATIONAL MEDICINE"
       AUTHOR: LANDRIGAN, PHILIP J.
 ORGANIZATION: LITTLE BROWN & BROWN CO., BOSTON
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100129        DATE: 05/00/76          PAGES: 1
TITLE/SUBJECT: "SKIN CANCER AND WATER ARSENIC IN LANE COUNTY, OREGON"--VOL.
               37:  2523-2532.
       AUTHOR: MORTON, WILLIAM (M.D.), ET AL.
 ORGANIZATION: CANCER
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
--------------------------------------------------------------------------
FILE: 2021702         NUMBER: 100130        DATE: 06/00/77          PAGES: 4
TITLE/SUBJECT: "CLIMATE OF EAST ANACONDA, MONTANA". CLIMATOGRAPHY OF THE
               UNITED STATES NO. 20. CLIMATOLOGICAL SUMMARY - MEANS
               AND EXTREMES FOR PERIOD 1951-1974.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------
FILE: 2021702         NUMBER: 100131        DATE: 11/00/74          PAGES: 6
TITLE/SUBJECT: "RESPIRATORY CANCER AND OCCUPATIONAL EXPOSURE TO ARSENICALS"
               VOL. 29:250-255.
       AUTHOR: OTT, MARVIN GERALD., ET AL.
 ORGANIZATION: ARCH. ENVIRON. HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100132 DATE: 05/00/85 PAGES: 18
TITLE/SUBJECT: "A METHOD FOR ESTIMATING MEAN AND LOW FLOWS OF STREAMS IN NATIONAL FORESTS OF MONTANA". WATER RESOURCES INVESTIGATIONS REPORT 85-4041.
AUTHOR: PARRETT, CHARLES., ET AL.
ORGANIZATION: U.S. GEOLOGICAL SURVEY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100133 DATE: 05/00/81 PAGES: 504
TITLE/SUBJECT: "PROCEDURES FOR HANDLING AND CHEMICAL ANALYSIS OF SEDIMENT AND WATER SAMPLES". TECHNICAL REPORT EPA/CE-81-1.
AUTHOR: PLUMB, RUSSELL H. JR.
ORGANIZATION: U.S. ARMY ENGINEER WATERWAYS EXPERIMENT ST. VICKSBERG MS
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100134 DATE: 00/00/84 PAGES: 6
TITLE/SUBJECT: "CHILDREN'S EXPOSURE TO SMELTER-ASSOCIATED LEAD, MONTANA AND IDAHO". IN: PROCEEDINGS OF THE 5TH NATIONAL CONFERENCE ON MANAGEMENT OF UNCONTROLLED WASTE SITES. NOV.7-9. WASHINGTON D.C. PAGES 239-242.
AUTHOR: SCHILLING, R., ET AL.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100135 DATE: 00/00/72 PAGES: 75
TITLE/SUBJECT: "ELEMENTAL COMPOSITION OF SURFICIAL MATERIALS IN THE CONTERMINOUS UNITED STATES"--AN ACCOUNT TO THE AMOUNTS OF CERTAIN CHEMICAL ELEMENTS IN SAMPLES OF SOILS AND OTHER REGOLITHS. USGS PROFESSIONAL PAPER 574-D.
AUTHOR: SHACKLETTE, HANSFORD., ET AL.
ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100136 DATE: 08/00/77 PAGES: 5
TITLE/SUBJECT: "AIRBORNE ARSENIC EXPOSURE AND EXCRETION OF METHYLATED ARSENIC COMPOUNDS"--VOL. 19: 89-93.
AUTHOR: SMITH, T.J., ET AL.
ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100137 DATE: 00/00/83 PAGES: 17
TITLE/SUBJECT: "AN EPIDEMIOLOGICAL STUDY OF ARSENIC IN DRINKING WATER IN MILLARD COUNTY, UTAH" IN: W.H. LEDERER AND R.J. FENSTERHEIM EDITORS, "ARSENIC - INDUSTRIAL, BIOMEDICAL, ENVIRONMENTAL PERSPECTIVES" PAGES 210-225.
AUTHOR: SOUTHWICK, J.W., ET AL.
ORGANIZATION: VAN NOSTRAND REINHOLD COMPANY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

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FILE: 2021702          NUMBER: 100138          DATE: 09/15/82          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF EIGHT COPIES OF REPORT NO. 2, PRELIMINARY
               DESIGN OF THE FLUE DUST STORAGE FACILITY FOR THE ANACONDA
               SMELTER. (1 COPY ATTACHED)
       AUTHOR: DEDYCKER, PHILLIP
 ORGANIZATION: STEFFEN ROBERTSON AND KIRSTEN
    ADDRESSEE: BROWN, TOM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021702          NUMBER: 100139          DATE: 09/00/82          PAGES: 127
TITLE/SUBJECT: "PRELIMINARY DESIGN OF THE FLUE DUST STORAGE FACILITY FOR
               THE RECLAMATION OF THE ANACONDA REDUCTION WORKS (REPORT
               01230/2)"
       AUTHOR: NOT INDICATED
 ORGANIZATION: STEFFEN ROBERTSON AND KIRSTEN
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100140          DATE: 00/00/00          PAGES: 219
TITLE/SUBJECT: "SILVER BOW CREEK DATA (STILLER) - ANACONDA DATA BASE"--
               COMPUTER PRINTOUTS WITH MAPS AND TABLES INDICATING
               SAMPLING SITES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: STILLER AND ASSOCIATES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100141          DATE: 07/00/07          PAGES: 29
TITLE/SUBJECT: "THE DETERMINATION OF ARSENIC AND OTHER SOLID CONSTITUENTS
               OF SMELTER SMOKE, WITH A STUDY OF THE EFFECTS OF HIGH STACKS
               AND LARGE CONDENSING FLUES"--VOL. 29(7):  970-998.
       AUTHOR: HARKINS, W.D., ET AL.
 ORGANIZATION: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100142          DATE: 01/06/69          PAGES: 5
TITLE/SUBJECT: "LEACHING OF ARSENIC FROM SOIL". VOL. 17:128-132.
       AUTHOR: TAMMES, P.M., ET AL.
 ORGANIZATION: NETHERLANDS JOURNAL OF AGRICULTURAL SCIENCE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100143          DATE: 03/10/72          PAGES: 156
TITLE/SUBJECT: "SOIL CONTAMINATION AT ANACONDA, MONTANA:  HISTORY AND
               INFLUENCE ON PLANT GROWTH". MASTER'S THESIS.
       AUTHOR: TASKEY, RONALD D.
 ORGANIZATION: UNIVERSITY OF MONTANA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100144         DATE: 02/00/85         PAGES: 9
TITLE/SUBJECT: "MORTALITY AMONG A COHORT OF U.S. CADMIUM PRODUCTION
               WORKERS--AN UPDATE"--VOL. 71(2):  325-333.
       AUTHOR: THUN, MICHEAL J., ET AL.
 ORGANIZATION: JOURNAL OF THE NATIONAL CANCER INSTITUTE (JNCI)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100145         DATE: 03/00/68         PAGES: 12
TITLE/SUBJECT: "PREVALENCE OF SKIN CANCER IN AN ENDEMIC AREA OF CHRONIC
               ARSENICISM IN TAIWAN" VOL. 40(3):453-463.
       AUTHOR: TSENG, W.P., ET AL.
 ORGANIZATION: JOURNAL OF THE NATIONAL CANCER INSTITUTE (JNCI)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100145A        DATE: 00/00/66         PAGES: 17
TITLE/SUBJECT: "GEOLOGY OF THE NORTHWEST QUARTER OF THE ANACONDA QUADRANGLE
               DEER LODGE COUNTY, MONTANA". USGS SURVEY BULLETIN 1222-B.
       AUTHOR: WANEK, ALEXANDER A., ET AL.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100146         DATE: 00/00/73         PAGES: 6
TITLE/SUBJECT: "THE CHEMISTRY AND PHYTOTOXICITY OF ARSENIC IN SOILS: II.
               EFFECTS OF TIME AND PHOSPHOROUS" VOL. 37:254-259.
       AUTHOR: WOOLSON, E.A., ET AL.
 ORGANIZATION: SOIL SCI. SOC. AMER. PROC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100147         DATE: 00/00/83         PAGES: 46
TITLE/SUBJECT: "EMISSIONS, CYCLING AND EFFECTS OF ARSENIC IN SOIL
               ECOSYSTEMS" IN:  "BIOLOGICAL AND ENVIRONMENT EFFECTS OF
               ARSENIC", FOWLER, EDITOR, PAGES 51-139.
       AUTHOR: WOOLSON, EDWIN A.
 ORGANIZATION: ELSEVIER SCIENCE PUBLISHERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100148         DATE: 08/00/77         PAGES: 5
TITLE/SUBJECT: "THE SILVER VALLEY LEAD STUDY:  THE RELATIONSHIPS BETWEEN
               CHILDHOOD BLOOD LEAD LEVELS AND ENVIRONMENTAL EXPOSURE"--VOL
               27(8):  763-767.
       AUTHOR: YANKEL, ANTHONY J., ET AL.
 ORGANIZATION: JOURNAL OF THE AIR POLLUTION CONTROL ASSOCIATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100149 DATE: 08/21/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A COPY OF SKAAR ET AL. 1985 WHICH IS AN UPDATE TO SKAAR 1980--ONE OF THE TETRA TECH-CITED REFERENCES REQUESTED.
AUTHOR: GLASS, GREGORY
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021702 NUMBER: 100150 DATE: 00/00/85 PAGES: 41
TITLE/SUBJECT: "MONTANA BIRD DISTRIBUTION"--MONOGRAPH NO. 3. SUPPLEMENT TO THE PROCEEDINGS VOLUME 44.
AUTHOR: SKAAR, DON., ET AL.
ORGANIZATION: MONTANA ACADEMY OF SCIENCES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100151 DATE: 00/00/84 PAGES: 5
TITLE/SUBJECT: "HISTOPATHOLOGY OF EARLY EFFECTS OF ORAL CADMIUM IN THE RAT KIDNEY" VOL. 54:153-161.
AUTHOR: AUGHEY, E., ET AL
ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100152 DATE: 11/00/75 PAGES: 4
TITLE/SUBJECT: "ABSORPTION OF LEAD FROM DUST AND SOIL" VOL. 51: 801-804.
AUTHOR: BALTROP, D., ET AL
ORGANIZATION: POSTGRADUATE MEDICAL JOURNAL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100155 DATE: 01/31/75 PAGES: 3
TITLE/SUBJECT: "LEAD IN URBAN STREET DUST" VOL. 253: 343-345.
AUTHOR: DAY, J.P., ET AL
ORGANIZATION: NATURE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100156 DATE: 00/00/77 PAGES: 4
TITLE/SUBJECT: "LEAD-IN-DUST IN CITY STREETS" VOL 7(1977): 91-97. AN ASSESSMENT OF THE RISK FROM THE LEAD CONTENT OF STREET DUST IS ATTEMPTED.
AUTHOR: DUGGAN, M.J.
ORGANIZATION: THE SCIENCE OF THE TOTAL ENVIRONMENT
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100157 DATE: 00/00/84 PAGES: 5
TITLE/SUBJECT: "RELATION BETWEEN PICA AND BLOOD LEAD IN AREAS OF DIFFERING LEAD EXPOSURE" VOL. 59: 40-44.
AUTHOR: GALLACHER, J.E.J., ET AL
ORGANIZATION: ARCHIVES OF DISEASE IN CHILDHOOD
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021702         NUMBER: 100158         DATE: 10/00/77         PAGES: -1
TITLE/SUBJECT: "EPIDEMIOLOGY STUDIES-SELECTED NON-CARCINOGENIC EFFECTS OF
               INDUSTRIAL EXPOSURE TO INORGANIC ARSENIC-FINAL REPORT"
               (EPA 560/6-77-018)
       AUTHOR: LANDAU, EMANUEL, ET AL
 ORGANIZATION: USEPA, OFFICE OF TOXIC SUBSTANCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702         NUMBER: 100159         DATE: 00/00/76E        PAGES: 13
TITLE/SUBJECT: "CADMIUM AND CADMIUM COMPOUNDS" IN:  IARC MONOGRAPH VOL. 11:
               39-75.
       AUTHOR: NOT INDICATED
 ORGANIZATION: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100160         DATE: 00/00/80E        PAGES: 143
TITLE/SUBJECT: "ARSENIC AND ARSENIC COMPOUNDS," "BERYLLIUM AND BERYLLIUM
               COMPOUNDS," AND "CHROMIUM AND CHROMIUM COMPOUNDS" IN:
               IARC MONOGRAPH VOL. 23:  39-323.
       AUTHOR: NOT INDICATED
 ORGANIZATION: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702         NUMBER: 100161         DATE: 08/00/75         PAGES: 6
TITLE/SUBJECT: "REPRODUCTIVE ABILITY OF WORKMEN OCCUPATIONALLY EXPOSED TO
               LEAD" VOL. 30:  396-401.
       AUTHOR: LANCRANJAN, IONA, ET AL
 ORGANIZATION: ARCH. ENVIRON. HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100162         DATE: 01/16/75         PAGES: 7
TITLE/SUBJECT: "EPIDEMIC LEAD ABSORPTION NEAR AN ORE SMELTER - THE ROLE OF
               PARTICULATE LEAD" VOL. 292(3):  123-129.
       AUTHOR: LANDRIGAN, PHILIP, ET AL
 ORGANIZATION: NEW ENGLAND JOURNAL OF MEDICINE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702         NUMBER: 100163         DATE: 05/00/74         PAGES: 4
TITLE/SUBJECT: "ROLE OF AIRBORNE-LEAD IN INCREASED BODY BURDEN OF LEAD IN
               HARTFORD CHILDREN" VOL. 7:  99-102.
       AUTHOR: LEPOW, MARTHA L., ET AL
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100164          DATE: 00/00/75          PAGES: 7
TITLE/SUBJECT: "INVESTIGATIONS INTO SOURCES OF LEAD IN THE ENVIRONMENT OF
               URBAN CHILDREN" VOL. 10:  415-426.
       AUTHOR: LEPOW, MARTHA L., ET AL
 ORGANIZATION: ENVIRONMENTAL RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100165          DATE: 08/00/77          PAGES: 11
TITLE/SUBJECT: "QUANTITIES OF LEAD PRODUCING HEALTH EFFECTS IN HUMANS:
               SOURCES AND BIOAVAILABILITY" VOL. 19:  285-295.
       AUTHOR: MAHAFFEY, KATHRYN R.
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100166          DATE: 00/00/78          PAGES: 37
TITLE/SUBJECT: "ENVIRONMENTAL EXPOSURE TO LEAD" J.O. NRIAGU EDITOR, THE
               BIOGEOCHEMISTRY OF LEAD IN THE ENVIRONMENT, PART B.
               BIOLOGICAL EFFECTS.  PP. 1-36.
       AUTHOR: MAHAFFEY, KATHRYN R.
 ORGANIZATION: ELSEVIER/NORTH-HOLLAND BIOMEDICAL PRESS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100167          DATE: 08/07/79          PAGES: 8
TITLE/SUBJECT: "EXPOSURE TO LEAD BY THE ORAL AND THE PULMONARY ROUTES OF
               CHILDREN LIVING IN THE VICINITY OF A PRIMARY LEAD SMELTER"
               VOL. 22:  81-94.
       AUTHOR: ROELS, HARRY A., ET AL
 ORGANIZATION: ENVIRONMENTAL RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100168          DATE: 00/00/82          PAGES: 6
TITLE/SUBJECT: "THE RELATIONSHIP OF ENVIRONMENTAL LEAD TO BLOOD-LEAD LEVELS
               IN CHILDREN" VOL. 27:  372-383.  AN IN-DEPTH STUDY OF THE
               DISTRIBUTION OF LEAD SOURCES IN THE RESIDENTIAL ENVIRONMENT
               OF 377 CHILDREN IN NEW HAVEN, CONNETICUT.
       AUTHOR: STARK, ALICE D., ET AL
 ORGANIZATION: ENVIRONMENTAL RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100169          DATE: 02/00/83          PAGES: 5
TITLE/SUBJECT: "CARCINOGENICITY OF CADMIUM CHLORIDE AEROSOLS IN W RATS"
               VOL. 70(2):  367-371.
       AUTHOR: TEKENAKA, SHINJI, ET AL
 ORGANIZATION: JOURNAL OF THE NATIONAL CANCER INSTITUTE (JNCI)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100170          DATE: 01/00/80E       PAGES: 6
TITLE/SUBJECT: "AGE-SPECIFIC RISK FACTORS FOR LEAD ABSORPTION IN CHILDREN"
               VOL. 35(1):  53-58.
       AUTHOR: WALTER, S.D., ET AL
 ORGANIZATION: ARCHIVES OF ENVIRONMENTAL HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100171          DATE: 12/26/85       PAGES: 59
TITLE/SUBJECT: "DRAFT ANALYTICAL RESULTS FOR RESIDENTIAL DUST AND SOIL
               SAMPLES IN ANACONDA, MONTANA AND SURROUNDING COMMUNITIES"
               (TDD R8-8511-11)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702           NUMBER: 100172          DATE: 00/00/00       PAGES: 31
TITLE/SUBJECT: "RESIDENTIAL INDOOR DUST AND YARD SOIL ARSENIC CONCENTRATION
               ASSOCIATED WITH COPPER SMELTER DEPOSITION:  CORRELATION WITH
               URINARY ARSENIC LEVELS IN CHILDREN" (86-67.3)
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------
FILE: 2021702           NUMBER: 100173          DATE: 09/04/85        PAGES: 8
TITLE/SUBJECT: REGARDING SOIL SAMPLING IN THE MILL CREEK AREA OF ANACONDA,
               MONTANA, TDD R8-8504-08:  TABULATED CONCENTRATIONS OF
               ARSENIC AND LEAD IN SOIL, INDOOR AIR AND VACUUM DUST
               SAMPLES. (PHOTOS OF SAMPLE LOCATIONS NOT ENCLOSED)
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021702           NUMBER: 100174          DATE: 08/23/84       PAGES: 70
TITLE/SUBJECT: "REPORT OF SAMPLING ACTIVITIES FOR RESIDENTIAL DUST AND SOIL
               SAMPLING IN ANACONDA, MONTANA AND SURROUNDING COMMUNITIES"
               (TDD R8-8504-08, EPA ID #MTD 093291656)
       AUTHOR: FRANZEN, DAVE
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------
FILE: 2021702           NUMBER: 100175          DATE: 00/00/86       PAGES: 25
TITLE/SUBJECT: "MILL CREEK RI/FS.  TECHNICAL MEMORANDUM NO. 5.  DEEP TILL
               PILOT STUDY" (TTB-167F0)
               ALSO REFER TO DOCUMENT 2021601, 100022
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100176          DATE: 09/00/86          PAGES: 45
TITLE/SUBJECT: "TECHNICAL MEMORANDUM:  SOIL COLUMN LEACH BENCH TEST.  MILL
               CREEK, MONTANA RI/FS"--DOCUMENTS THE RESULTS OF A BENCH TEST
               DESIGNED TO EVALUATE THE POTENTIAL OF USING TOPICALLY-
               APPLIED WATER TO LEACH THE SURFICIAL CONTAMINATING ELEMENTS
               FARTHER INTO THE SOIL PROFILE.  ALSO: 2021601, 100024
        AUTHOR: NOT INDICATED
  ORGANIZATION: TETRA TECH, INC.
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100178          DATE: 12/00/84          PAGES: 335
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS.  LABORATORY ANALYTICAL PROTOCOL"
               (LAP).  (DOCUMENT CONTROL NO # BAL TTB-030F0)
        AUTHOR: NOT INDICATED
  ORGANIZATION: TETRA TECH, INC.
     ADDRESSEE: DOLE, STEPHEN E.
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100179          DATE: 10/01/84          PAGES: 134
TITLE/SUBJECT: "FINAL WORK PLAN FOR ANACONDA SMELTER RI/FS" (77.8L18.0)
        AUTHOR: NOT INDICATED
  ORGANIZATION: CH2M HILL
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100180          DATE: 12/00/85          PAGES: 28
TITLE/SUBJECT: "SUMMARY OF AVAILABLE SOILS DATA - MILL CREEK, MONTANA"
               (DOCUMENT CONTROL NO. BAL TTB-062DO) INCLUDES ATTACHED
               TRANSMITTAL LETTER FROM JAMES C. WINDORSKI TO JOHN WARDELL
               DATED NOVEMBER 26, 1985.
        AUTHOR: NOT INDICATED
  ORGANIZATION: TETRA TECH, INC.
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100181          DATE: 07/00/85          PAGES: 36
TITLE/SUBJECT: "HEALTH EFFECTS SOILS INVESTIGATION PLAN DATA REPORT"
               (DOCUMENT CONTROL NO.BAL TTB-050DO)
        AUTHOR: NOT INDICATED
  ORGANIZATION: TETRA TECH, INC.
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100182          DATE: 07/29/86          PAGES: 80
TITLE/SUBJECT: "INITIAL ALTERNATIVES SCREENING DOCUMENT - MILL CREEK,
               MONTANA - REMEDIAL INVESTIGATION/FEASIBILITY STUDY"
               (IASD).  (JOB NO. 04010-097-30)
        AUTHOR: NOT INDICATED
  ORGANIZATION: DAMES & MOORE
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
 DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100183          DATE: 00/00/86          PAGES: 23
TITLE/SUBJECT: "ANACONDA SMELTER RI/FS TECHNICAL MEMORANDUM NO. 4 DOMESTIC
               WELLWATER SAMPLING"
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100184          DATE: 08/00/86          PAGES: 43
TITLE/SUBJECT: "MILL CREEK RI/FS TECHNICAL MEMORANDUM NO. 1 - BACKGROUND
               ARSENIC, CADMIUM, AND LEAD CONCENTRATIONS IN SOIL, WATER,
               AND AIR" (DOCUMENT CONTROL NO. TTB 162 FO)
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100185          DATE: 07/00/86          PAGES: 27
TITLE/SUBJECT: "MILL CREEK RI/FS TECHNICAL MEMORANDUM NO. 2 - ASSESSMENT OF
               THE ADEQUACY OF THE MILL CREEK, MONTANA DATA BASE" (DOCUMENT
               CONTROL NO. TTB 163 FO)
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100186          DATE: 00/00/75          PAGES: 2
TITLE/SUBJECT: "MILL CREEK" IN:  UNDER THE SHADOW OF MOUNT HAGGIN - THE
               STORY OF ANACONDA AND DEER LODGE COUNTY FROM 1863 TO 1976.
               PAGES 168-169.
       AUTHOR: JOHNSON, FLORENCE
 ORGANIZATION: DEER LODGE COUNTY HISTORY GROUP
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100187          DATE: 09/17/87          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF THE LAST OF THE ARTICLES FOUND FROM THE LIST
               DENNIS SMITH SENT, AND THE FEDERAL EXPRESS AIRBILL.
               (# 3587943155)
       AUTHOR: LOWE, MIKE
 ORGANIZATION: CLEMENT & ASSOCIATES, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: ROUTING SLIP
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FILE: 2021702          NUMBER: 100188          DATE: 00/00/82          PAGES: 3
TITLE/SUBJECT: "A FOLLOW-UP STUDY OF NERVE CONDUCTION VELOCITIES IN LEAD
               EXPOSED WORKERS" VOL. 4:  721-723.
       AUTHOR: SEPPAELAEINEN, ANNA MARIA, ET AL
 ORGANIZATION: NEUROBEHAVIORAL TOXICOLOGY AND TERATOLOGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702        NUMBER: 100189        DATE: 05/00/82         PAGES: 71
TITLE/SUBJECT: "IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK
               OF CHEMICALS TO HUMANS.  VOL 29:  SOME INDUSTRIAL CHEMICALS
               AND DYESTUFFS" THIS PUBLICATION REPRESENTS THE VIEWS AND
               EXPERT OPINIONS OF AN IARC WORKING GROUP WHICH MET IN LYON,
               FRANCE, 13-20 OCTOBER 1981.  WORLD HEALTH ORGANIZATION
       AUTHOR: NOT INDICATED
 ORGANIZATION: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702        NUMBER: 100190        DATE: 05/00/83         PAGES: 22
TITLE/SUBJECT: "EFFECTS OF OCCUPATIONAL EXPOSURE TO LEAD ON SPERM AND
               SEMEN" IN:  CLARKSON, THOMAS W., EDITOR, "REPRODUCTIVE AND
               DEVELOPMENTAL TOXICITY OF METALS." PAGES 279-300.  PRESENTED
               AT A JOINT MEETING OF THE ROCHESTER, NY CONFERENCE AND
               SCIENTIFIC COMMITTEE (PCIAOH) ON TOXICOLOGY OF METALS.
       AUTHOR: WILDT, KARL, ET AL
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702        NUMBER: 100191        DATE: 00/00/77         PAGES: 3
TITLE/SUBJECT: "HEALTH EFFECTS OF COMMUNITY EXPOSURE TO INORGANIC ARSENIC"
               IN:  PROCEEDINGS OF THE FOURTH INTERNATIONAL CLEAN AIR
               CONFERENCE, TOKYO, JAPAN.  PAGES 41-43.
       AUTHOR: LANDAU, EMANUEL, ET AL
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702        NUMBER: 100192        DATE: 00/00/81         PAGES: 11
TITLE/SUBJECT: "RELATION BETWEEN ARSENIC IN DRINKING WATER AND SKIN
               CANCER" VOL. 3:  133-143.
       AUTHOR: ASTOLFI, E., ET AL
 ORGANIZATION: BIOLOGICAL TRACE ELEMENT RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702        NUMBER: 100193        DATE: 00/00/83         PAGES: 3
TITLE/SUBJECT: "TUMORIGENIC EFFECT OF SODIUM ARSENITE IN RAT KIDNEY"
               VOL. 26:  413-415.
       AUTHOR: SHIRACHI, D.Y., ET AL
 ORGANIZATION: PROC. WEST. PHARMACOL. SOC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702        NUMBER: 100194        DATE: 00/00/82         PAGES: 7
TITLE/SUBJECT: "APPROACHES TO EPIDEMIOLOGICAL ANALYSIS OF PROSPECTIVE AND
               RETROSPECTIVE STUDIES:  EXAMPLE OF LUNG CANCER AND EXPOSURE
               TO ARSENIC." IN:  R.L. PRENTICE AND A.S. WHITTEMORE,
               EDITORS.  ENVIRONMENTAL EPIDEMIOLOGY:  RISK ASSESSMENT.
               SIAM, PHILADELPHIA, PAGES 94-106.
       AUTHOR: BROWN, CHARLES C., ET AL.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100195 DATE: 09/21/87 PAGES: 7
TITLE/SUBJECT: TRANSMITTAL OF A SET OF DOCUMENTS REQUESTED ON 9/4/87 ALONG WITH AN EXPLANATION OF DELIVERY CODES AND AN EXPLANATION FOR DOCUMENTS NOT INCLUDED IN THIS SHIPMENT.
AUTHOR: GLASS, GREGORY
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021702 NUMBER: 100196 DATE: 00/00/81 PAGES: 9
TITLE/SUBJECT: "THE INFLUENCE OF LEAD, CADMIUM, AND NICKEL ON THE GROWTH OF RYEGRASS AND OATS" VOL. 62:81-89.
(DUPLICATE OF DOCUMENT 2021702,100038)
AUTHOR: ALLINSON, D.W., ET AL.
ORGANIZATION: PLANT AND SOIL
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100197 DATE: 00/00/70 PAGES: 2
TITLE/SUBJECT: "STANDARD METHOD OF TEST FOR MATERIALS FINER THAN NO. 200 SIEVE IN MINERAL AGGREGATES BY WASHING" IN: 1970 ANNUAL BOOK OF ASTM STANDARDS, PART 10. PAGES 72-73. PHILADELPHIA, PA.
AUTHOR: NOT INDICATED
ORGANIZATION: AMERICAN SOCIETY FOR TESTING AND MATERIALS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100198 DATE: 00/00/87 PAGES: 4
TITLE/SUBJECT: "STANDARD TEST METHOD FOR MATERIALS FINER THAN 75-UM (NO. 200) SIEVE IN MINERAL AGGREGATES BY WASHING" IN: 1987 ANNUAL BOOK OF ASTM STANDARDS VOL. 4.03: 16-19. PHILADELPHIA, PA., 1987.
AUTHOR: NOT INDICATED
ORGANIZATION: AMERICAN SOCIETY FOR TESTING AND MATERIALS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100199 DATE: 00/00/71 PAGES: 2
TITLE/SUBJECT: "STANDARD METHOD OF TEST FOR SIEVE OR SCREEN ANALYSIS OF FINE AND COARSE AGGREGATES" IN: 1971 ANNUAL BOOK OF ASTM STANDARDS, PT 10. PAGES 88-89. PHILADELPHIA, PA.
AUTHOR: NOT INDICATED
ORGANIZATION: AMERICAN SOCIETY FOR TESTING AND MATERIALS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100200 DATE: 00/00/87 PAGES: 5
TITLE/SUBJECT: "STANDARD METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES" IN: 1987 ANNUAL BOOK OF ASTM STANDARDS VOL. 4.03: 42-46. PHIALELPHIA, PA., 1987.
AUTHOR: NOT INDICATED
ORGANIZATION: AMERICAN SOCIETY FOR TESTING AND MATERIALS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021702          NUMBER: 100201          DATE: 00/00/65          PAGES: 13
TITLE/SUBJECT: "RATE OF WATER INTAKE IN THE FIELD" IN: METHODS OF SOIL
               ANALYSIS. PART 1. PHYSICAL AND MINERALOGICAL PROPERTIES.
               C.A. BLACK, EDITOR. PAGES 197-209.
       AUTHOR: BERTRAND, ANSON R.
 ORGANIZATION: AMERICAN SOCIETY OF AGRONOMY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100202          DATE: 00/00/65          PAGES: 17
TITLE/SUBJECT: "BULK DENSITY" IN:  METHODS OF SOIL ANALYSIS. PART I.
               PHYSICAL AND MINERALOGICAL PROPERTIES.  C.A. BLACK, EDITOR.
               PAGES 374-390.
       AUTHOR: BLAKE, G.R.
 ORGANIZATION: AMERICAN SOCIETY OF AGRONOMY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100203          DATE: 00/00/79          PAGES: 3
TITLE/SUBJECT: "SOIL CHEMISTRY" PREFACE AND PAGE 298 ON IMPORTANT IONS.
       AUTHOR: BOHN, HINRICH L., ET AL
 ORGANIZATION: JOHN WILEY & SONS, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100204          DATE: 00/00/77          PAGES: 6
TITLE/SUBJECT: "THE SORPTION OF LEAD AND CADMIUM SPECIES BY CLAY MINERALS"
               VOL. 30: 1417-1422.
       AUTHOR: FARRAH, HELEN., ET AL
 ORGANIZATION: AUST. J. CHEM.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100206          DATE: 00/00/81          PAGES: 9
TITLE/SUBJECT: "METAL POLLUTION IN THE AQUATIC ENVIRONMENT" (COPY OF
               APPENDIX). BERLIN HEIDELBERG NEW YORK
       AUTHOR: FORSTNER, U., ET AL
 ORGANIZATION: SPRINGER-VERLAG
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100207          DATE: 08/00/86          PAGES: 2
TITLE/SUBJECT: "EPIDEMIOLOGIC STUDY CONDUCTED IN POPULATIONS LIVING AROUND
               NONFERROUS SMELTER, VOLUMES I AND II" VOL 1: PB87-121083
               EPA/600/1-81/070A 562 P. VOL 2: PB87-121091
               EPA/600/1-81/070B 660 P. (MICROFICHE)
       AUTHOR: HARTWELL, TYLER D.(PH.D.)., ET AL.
 ORGANIZATION: RESEARCH TRIANGLE INSTITUTE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100208          DATE: 00/00/57          PAGES: 4
TITLE/SUBJECT: "A TREATISE ON LIMNOLOGY" VOLUME I: GEOGRAPHY, PHYSICS,
               AND CHEMISTRY.
       AUTHOR: HUTCHINSON, G. EVELYN
 ORGANIZATION: JOHN WILEY & SONS, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100209          DATE: 00/00/77          PAGES: 4
TITLE/SUBJECT: "MORTALITY EXPERIENCE IN RELATION TO A MEASURED ARSENIC
               TRIOXIDE EXPOSURE" VOL.19: 127-130.
       AUTHOR: PINTO, SHERMAN S., ET AL
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100210          DATE: 00/00/81          PAGES: 75
TITLE/SUBJECT: "HEAVY METAL POLLUTION IN SOILS OF JAPAN" (TABLE OF CONTENTS
               ONLY)
       AUTHOR: KITAGISHI, KAKUZO., ET AL
 ORGANIZATION: JAPAN SCIENTIFIC SOCIETIES PRESS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100211          DATE: 09/00/83          PAGES: 6
TITLE/SUBJECT: "DIETARY INTAKE OF LEAD AND BLOOD LEAD CONCENTRATION IN
               EARLY INFANCY" VOL. 137: 886-891.
       AUTHOR: RYU, JACQUELINE E., ET AL
 ORGANIZATION: AM. J. DIS. CHILD.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100212          DATE: 00/00/75          PAGES: 60
TITLE/SUBJECT: "MONTANA BIRD DISTRIBUTION, PRELIMINARY MAPPING BY
               LATILONG" PUBLISHED BY P.D. SKAAR.
       AUTHOR: SKAAR, PALMER DAVID
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100213          DATE: 00/00/82          PAGES: 28
TITLE/SUBJECT: "DISTRIBUTION OF MONTANA AMPHIBIANS, REPTILES, MAMMALS"
               (PRELIMINARY MAPPING BY LATILONG)
       AUTHOR: THOMPSON, LARRY S.
 ORGANIZATION: MONTANA AUDUBON COUNCIL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100214          DATE: 00/00/81          PAGES: 17
TITLE/SUBJECT: "LEACHING OF METALS FROM THE A-HORIZON OF A SPRUCE FOREST
               SOIL" VOL. 15: 353-369.
       AUTHOR: TYLER, GERMUND
 ORGANIZATION: WATER, AIR AND SOIL POLLUTION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100215          DATE: 00/00/74          PAGES: 4
TITLE/SUBJECT: "BIOSTATISTICAL ANALYSIS" PAGES 107-108. WILLIAM D. MCELROY
               AND CARL P. SWANSON, EDITORS.
       AUTHOR: ZAR, JERROLD H.
 ORGANIZATION: PRENTICE-HALL, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100216          DATE: 05/01/83          PAGES: 14
TITLE/SUBJECT: "SCREENING STUDY ANACONDA SMELTER SITE, ANACONDA, MONTANA"
               (REFER TO DOCUMENT 2021701, 100001F)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100217          DATE: 00/00/85          PAGES: 78
TITLE/SUBJECT: "ASSESSMENT OF HEALTH EFFECTS ASSOCIATED WITH AIRBORNE
               TRANSPORT OF HAZARDOUS SUBSTANCES FROM THE ANACONDA
               SMELTER SITE. FINAL REPORT" (DOCUMENT NO. 228-TS1-RT-BTDZ-2)
               (REFER TO DOCUMENT 2021701, 100013)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------
FILE: 2021702          NUMBER: 100218          DATE: 00/00/84          PAGES: 48
TITLE/SUBJECT: "FINAL PRELIMINARY ENDANGERMENT ASSESSMENT (PEA) FOR
               ANACONDA SMELTER RI/FS" (77.8L18.0)
               (REFER TO DOCUMENT 2021708, 100001)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CH2M HILL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100219          DATE: 00/00/86          PAGES: 131
TITLE/SUBJECT: "ENDANGERMENT ASSESSMENT:  MILL CREEK, MONTANA ANACONDA
               SMELTER SITE. REVISED FINAL REPORT"
               (REFER TO DOCUMENT 2021708, 100003)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CLEMENT & ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100220          DATE: 12/02/85          PAGES:    25
TITLE/SUBJECT: "PRELIMINARY RESULTS OF THE RESIDENTIAL DUST AND SOIL
               SAMPLING IN ANACONDA, MONTANA, AND SURROUNDING COMMUNITIES"
               (ALSO REFER TO DOCUMENT 2021701, 100013A)
       AUTHOR: HILLMAN, JUANITA
 ORGANIZATION: ECOLOGY & ENVIRONMENT, INC. (E&E)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021702 NUMBER: 100221 DATE: 00/00/84 PAGES: 6
TITLE/SUBJECT: "STANDARD OPERATING PROCEDURES", ANACONDA SMELTER RI/FS. (REFER TO DOCUMENT 2021601, 100002 OR 2021701, 100017)
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100222 DATE: 08/29/85 PAGES:
TITLE/SUBJECT: TECHNICAL MEMORANDUM: SOIL SAMPLES - MILL CREEK AREA (ALSO REFER TO DOCUMENT 2021608, 100033)
AUTHOR: SCHMIDT, CAROLE
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021702 NUMBER: 100223 DATE: 12/00/83 PAGES: 3
TITLE/SUBJECT: "PROJECT SUMMARY ON MOBILE SYSTEM FOR EXTRACTING SPILLED HAZARDOUS MATERIALS FROM EXCAVATED SOILS" (EPA-600/S2-83-100)
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100224 DATE: 01/05/85 PAGES: 6
TITLE/SUBJECT: "EVALUATION CRITERIA FOR EXISTING DATA FROM CERCLA STUDY AREAS. REVISION 1"
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100225 DATE: 10/00/85 PAGES: 66
TITLE/SUBJECT: "HANDBOOK OF REMEDIAL ACTIONS AT WASTE DISPOSAL SITES" (REVISED) EPA/625/6-85/006
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100226 DATE: 06/19/86 PAGES: 57
TITLE/SUBJECT: "WORK PLAN FOR MILL CREEK SITE MONTANA"
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100227 DATE: 09/24/86 PAGES: 33
TITLE/SUBJECT: "GUIDELINES FOR THE HEALTH RISK ASSESSMENT OF CHEMICAL MIXTURES" VOL 51. NO.185
AUTHOR: NOT INDICATED
ORGANIZATION: FEDERAL REGISTER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

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FILE: 2021702          NUMBER: 100228          DATE: 07/00/85          PAGES: 1
TITLE/SUBJECT: ANACONDA SMELTER RI/FS "FLUE DRAFT STAGE I REMEDIAL
               INVESTIGATION REPORT"
               (DOCUMENT CONTROL NO. BAL TTB-052D0)
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100229          DATE: 11/12/85          PAGES: 14
TITLE/SUBJECT: TRANSMITTAL AND REPORT TITLED: "ANACONDA SMELTER RI/FS,
               TECHNICAL MEMORANDUM NO. 1, BACKGROUND WELLS AT THE ANACONDA
               SMELTER SITE" DATED OCTOBER, 1985 PROVIDED BY TETRA TECH,
               INC., BELLEVUE, WA. (BAL TTB-060D0)
       AUTHOR: TILMAN, RAY
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021702          NUMBER: 100230          DATE: 10/24/85          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF THE RESULTS OF MILL CREEK DRINKING WATER
               SAMPLES, ANACONDA SMELTER RI/FS.
       AUTHOR: BINGHAM, F.T., ET AL.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021702          NUMBER: 100231          DATE: 10/00/86          PAGES: 56
TITLE/SUBJECT: "SURFACE WATER AND SEDIMENT INVESTIGATION, ANACONDA SMELTER
               RI/FS" DATED SPRING, 1986. UNPUBLISHED DATA BY TETRA TECH,
               INC. FOURTH SAMPLING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100232          DATE: 08/00/85          PAGES: 13
TITLE/SUBJECT: "SOILS DATA REPORT, ANACONDA SMELTER RI/FS" PREPARED FOR
               ANACONDA MINERALS COMPANY.  [BAL TTB-055D0]
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100233          DATE: 00/00/84          PAGES:
TITLE/SUBJECT: "SCREENING STUDY: ANACONDA SMELTER SITE, ANACONDA, MONTANA"
               DOCUMENT AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702 NUMBER: 100234 DATE: 00/00/83 PAGES:
TITLE/SUBJECT: "FEASIBILITY STUDY TO RESOLVE QUESTIONS ON THE RELATIONSHIP OF ARSENIC IN DRINKING WATER TO SKIN CANCER". TECHNICAL REPORT 84-8, CENTER FOR ENVIRONMENTAL EPIDEMIOLOGY, UNIVERSITY OF PITTSBURGH.
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: ANDELMAN, J.B., ET AL
ORGANIZATION: UNIVERSITY OF PITTSBURGH
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100235 DATE: 08/21/84 PAGES:
TITLE/SUBJECT: "REVIEW OF CH2MHILL ENDANGERMENT ASSESSMENT FOR ANACONDA--AUGUST 21, 1984" BY THE OFFICE OF ENVIRONMENTAL HEALTH.
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: ANDERSON, E.
ORGANIZATION: USEPA HEADQUARTERS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100236 DATE: 00/00/82 PAGES:
TITLE/SUBJECT: "CHILDREN, THE BAROMETER OF ENVIRONMENTAL LEAD" VOL. 27:3-31, AS CITED IN USEPA 1984C.
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: ANGLE, CAROL R., ET AL.
ORGANIZATION: ADV. PEDIATR.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100237 DATE: 05/06/85 PAGES: 2
TITLE/SUBJECT: REGARDING URINARY ARSENIC VALUES REQUESTED BY EPA.
REFER TO DOCUMENT 2021707, 100002
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021702 NUMBER: 100238 DATE: 03/00/85 PAGES:
TITLE/SUBJECT: "MONTANA URINARY ARSENIC SURVEY" DATED MARCH, 1985.
COWRITTEN BY S. BINDER, D. FORNEY, D. PASCAL, ET AL
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100239 DATE: 07/00/85 PAGES: 29
TITLE/SUBJECT: "ANACONDA, MONTANA, JULY, 1985 ARSENIC STUDY", CDC, ATLANTA, GA.
REFER TO DOCUMENT 2021707,100003.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021702          NUMBER: 100240          DATE: 00/00/86          PAGES: 3
TITLE/SUBJECT: "ADDENDUM TO THE JULY URINARY ARSENIC SURVEY:  MILL CREEK
               FOLLOWUP."
               REFER TO DOCUMENT 2021707,100004.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: MARGOLIS, STEPHEN (Ph.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
DOCUMENT TYPE: MEMO
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FILE: 2021702          NUMBER: 100241          DATE: 00/00/66          PAGES:
TITLE/SUBJECT: "FLORA OF MONTANA, PART II", DEPARTMENT OF BOTANY AND
               MICROBIOLOGY, BOZEMAN, MONTANA.
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: BOOTH, W.E., ET AL
 ORGANIZATION: MONTANA STATE UNIVERSITY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100242          DATE: 00/00/79          PAGES:
TITLE/SUBJECT: "ENVIRONMENTAL CHEMISTRY OF THE ELEMENTS",
               (AS CITED IN CH2MHILL 1984).
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: BOWEN, H.J.M.
 ORGANIZATION: ACADEMIC PRESS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100243          DATE: 00/00/83          PAGES:
TITLE/SUBJECT: "A NEW METHOD FOR THE ANALYSES OF COHORT STUDIES:  IMPLICA-
               TIONS OF THE MULTISTAGE THEORY OF CARCINOGENESIS APPLIED TO
               OCCUPATIONAL ARSENIC EXPOSURE" VOL. 50: 293-308.
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: BROWN, CHARLES C., ET AL.
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100244          DATE: 00/00/80          PAGES:
TITLE/SUBJECT: "DISTRIBUTION OF 23 ELEMENTS IN KIDNEY, LIVER AND LUNG OF A
               CONTROL GROUP IN NORTHERN SWEDEN AND OF EXPOSED WORKERS FOR
               A SMELTER REFINERY"
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: BRUNE, D.
 ORGANIZATION: THE SCIENCE OF THE TOTAL ENVIRONMENT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100245          DATE: 00/00/79          PAGES: 13
TITLE/SUBJECT: "INFLUENCE OF ALTERNATIVE DEFINITIONS OF EXEMPT FUGITIVE
               DUST SOURCES ON THE IMPACT OF PSD REGULATIONS ON SURFACE
               COAL MINES".  PAPER #79-34.4, 72ND MEETING OF AIR POLLUTION
               CONTROL ASSOCIATION, CINCINNATI, OHIO, (6/24-29/79).
       AUTHOR: CABE, D.B., ET AL
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100246 DATE: 00/00/84 PAGES:
TITLE/SUBJECT: CODE OF FEDERAL REGULATIONS (CFR). 1984. 40 CFR 141, EPA NATIONAL INTERIM PRIMARY DRINKING WATER REGULATIONS. DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100247 DATE: 01/24/79 PAGES: 5
TITLE/SUBJECT: "FUGITIVE DUST EMISSION FACTORS"
AUTHOR: COLLINS, CHARLES A.
ORGANIZATION: WYOMING DEPT. OF ENVIRONMENTAL QUALITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021702 NUMBER: 100248 DATE: 00/00/76 PAGES: 8
TITLE/SUBJECT: "DISPERSION-DEPOSITION FROM AERIAL SPRAY RELEASES" THIRD SYMPOSIUM ON ATMOSPHERIC TURBULENCE, DIFFUSION AND AIR QUALITY. PAGES 520-527.
AUTHOR: DUMBALD, R.K.
ORGANIZATION: AMERICAN METEOROLOGICAL SOCIETY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100249 DATE: 00/00/74 PAGES:
TITLE/SUBJECT: "CADMIUM IN THE ENVIRONMENT", 2ND EDITION. DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: FRIBERG, L.T.
ORGANIZATION: CRC PRESS, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100250 DATE: 00/00/75 PAGES:
TITLE/SUBJECT: ENVIRONMENTAL DETERMINANTS OF LEAD BURDENS IN CHILDREN", INTERNATIONAL CONFERENCE ON HEAVY METALS IN THE ENVIRONMENT: SYMPOSIUM PROCEEDINGS, TORONTO, CANADA, 10/75. INSTITUTE FOR ENVIRONMENTAL STUDIES, TORONTO, CANADA. DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: GALKE, W.A.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100251 DATE: 00/00/79 PAGES: 298
TITLE/SUBJECT: "DEER LODGE VALLEY DISPERSION STUDY", MONTANA AIR QUALITY BUREAU, HELENA, MONTANA.
AUTHOR: GELHAUS, J.W., ET AL
ORGANIZATION: MONTANA AIR QUALITY BUREAU
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100252 DATE: 00/00/77 PAGES:
TITLE/SUBJECT: "FLORA OF MONTANA, CONIFERS AND MONOCOTS", MONTANA STATE UNIVERSITY, BOZEMAN, MT.
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: HAHN, B.E.
ORGANIZATION: MONTANA STATE UNIVERSITY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100253 DATE: 00/00/77 PAGES:
TITLE/SUBJECT: "ARSENIC DETERMINATION AND ARSENIC, LEAD, AND COPPER CONTENT OF MISSOURI SOILS"
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: HESS, R.E., ET AL
ORGANIZATION: UNIVERSITY OF MISSOURI, AGRIC. EXP. STN. RES. BULL.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100254 DATE: 00/00/82 PAGES:
TITLE/SUBJECT: "MORTALITY OF ANACONDA SMELTER WORKERS IN RELATION TO ARSENIC AND OTHER EXPOSURES"
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: HIGGINS, I., ET AL
ORGANIZATION: UNIVERSITY OF MICHIGAN, DEPARTMENT OF EPIDEMIOLOGY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100255 DATE: 00/00/78 PAGES:
TITLE/SUBJECT: "PRELIMINARY INVESTIGATIONS, HISTORICAL EMISSIONS INVENTORY, MONTANA AIR POLLUTION STUDY"
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: NOT INDICATED
ORGANIZATION: HISTORIC RESEARCH ASSOCIATION
ADDRESSEE: NOT INDICATED
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021702 NUMBER: 100256 DATE: 00/00/78 PAGES: 5
TITLE/SUBJECT: "ESTIMATION OF AIR CONCENTRATIONS DUE TO THE SUSPENSION OF SURFACE CONTAMINATION" VOL. 12:797-802.
AUTHOR: HORST, THOMAS W.
ORGANIZATION: ATOMOSPHERIC ENVIRONMENT
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100257 DATE: 00/00/84 PAGES:
TITLE/SUBJECT: "SUPERFUND AND FUGITIVE DUST: AN AIR QUALITY STUDY"
DOCUMENT AVAILABLE UPON REQUEST.
AUTHOR: IVES, J.A., ET AL
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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                     NUMBER: 100258             DATE: 00/00/83        PAGES:
FILE: 2021702
TITLE/SUBJECT: "ARSENIC AND RESPIRATORY CANCER IN MAN:  FOLLOW-UP OF AN
               OCCUPATIONAL STUDY" IN: LEDERER, W., AND FENSTERHEIM, R.,
               EDITORS, ARSENIC: INDUSTRIAL, BIOMEDICAL AND ENVIRONMENTAL
               PERSPECTIVES.
               DOCUMENT AVAILABLE UPON REQUEST.
        AUTHOR: LEE-FELDSTEIN
  ORGANIZATION: VAN NOSTRAND REINHOLD COMPANY
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MISCELLANEOUS
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                     NUMBER: 100259             DATE: 00/00/86        PAGES:
FILE: 2021702
TITLE/SUBJECT: "ANALYSIS OF THE POTENTIAL FOR AIRBORNE RECONTAMINATION OF
               MILL CREEK, MONTANA FROM THE RESUSPENSION, TRANSPORT, AND
               DEPOSITION OF SURFACE SOIL ARSENIC FROM THE ANACONDA SMELTER
               SITE"
               DOCUMENT AVAILABLE UPON REQUEST.
        AUTHOR: NOT INDICATED
  ORGANIZATION: MCVEHIL-MONNETT ASSOCIATES
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
 DOCUMENT TYPE: REPORT/STUDY
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                     NUMBER: 100260             DATE: 00/00/74        PAGES: 13
FILE: 2021702
TITLE/SUBJECT: "DEVELOPMENT OF EMISSION FACTORS FOR FUGITIVE DUST SOURCES"
               (EPA-450/3-74-037) PAGES 144-162.
        AUTHOR: NOT INDICATED
  ORGANIZATION: MRI
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
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                     NUMBER: 100261             DATE: 03/00/78        PAGES: 216
FILE: 2021702
TITLE/SUBJECT: "FUGITIVE EMISSIONS FROM INTEGRATED IRON AND STEEL
               PLANTS" (EPA-600/2-78-050, MARCH)
        AUTHOR: NOT INDICATED
  ORGANIZATION: MRI
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------
                     NUMBER: 100262             DATE: 06/00/78        PAGES:
FILE: 2021702
TITLE/SUBJECT: "BLOOD LEAD LEVELS IN CHILDREN IN TWO BRITISH COLUMBIA
               COMMUNITIES" IN: HEMPHILL, D.D., EDITOR, TRACE SUBSTANCES IN
               ENVIRONMENTAL HEALTH: PROCEEDINGS OF THE U. OF MISSOURI'S
               12TH ANNUAL CONFERENCE ON TRACE SUBSTANCES IN ENVIRONMENTAL
               HEALTH, JUNE, 1978.  DOCUMENT AVAILABLE UPON REQUEST.
        AUTHOR: NERI, L.C. ET AL
  ORGANIZATION: U. OF MISSOURI, COLUMBIA
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------
                     NUMBER: 100263             DATE: 03/00/83        PAGES:
FILE: 2021702
TITLE/SUBJECT: REPORT OF THE NHANES II TIME TREND ANALYSIS REVIEW GROUP.
               (FROM MEETING IN MARCH, 1983, RESEARCH TRIANGLE PARK, NORTH
               CAROLINA.  AVAILABLE FOR INSPECTION AT ENVIRONMENTAL
               CRITERIA AND ASSESSMENT OFFICE, U.S. EPA, RESEARCH TRIANGLE
               PARK, NORTH CAROLINA)
        AUTHOR: NOT INDICATED
  ORGANIZATION: NHANES II
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702        NUMBER: 100264        DATE: 08/28/86        PAGES:
TITLE/SUBJECT: MEMO TO STEPHEN E. DOLE, SUPERFUND COORDINATOR, ANACONDA
               MINERALS COMPANY.  ANACONDA, MONTANA.  SUPPLEMENTED
               SEPTEMBER 8, 1986.
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: ROTH, URBAN L.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: MEMO
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FILE: 2021702        NUMBER: 100265        DATE: 01/22/86        PAGES:
TITLE/SUBJECT: "TOPSOIL ANALYSIS AND INTERPRETATIONS, ANACONDA, MONTANA
               AREA REPORT"
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: SCHAFER, WILLIAM M.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: STEPHENSON, SAM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702        NUMBER: 100266        DATE: 00/00/80        PAGES:
TITLE/SUBJECT: "SUBCLINICAL LEAD NEUROPATHY" VOL. 1:413-420.
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: SEPPAELAEINEN, ANNA MARIA, ET AL
 ORGANIZATION: AMERICAN JOURNAL OF INDUSTRIAL MEDICINE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702        NUMBER: 100268        DATE: 05/00/85        PAGES: 184
TITLE/SUBJECT: "FLUE DUST STORAGE FACILITY, DRAFT STAGE 1, REMEDIAL
               INVESTIGATION REPORT"
               REFER TO DOCUMENT 2021702, 100228
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702        NUMBER: 100269        DATE: 00/00/86        PAGES:
TITLE/SUBJECT: "TECHNICAL MEMORANDUM NO. 4. DATA VALIDATION REPORT"
               (TTB-166FO)
               DOCUMENT AVAILABLE UPON REQUEST.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702        NUMBER: 100270        DATE: 09/00/86        PAGES: 283
TITLE/SUBJECT: "DRAFT REMEDIAL INVESTIGATION REPORT.  MILL CREEK, MONTANA
               RI/FS"
               REFER TO DOCUMENT 2021705, 100010A
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100271          DATE: 07/02/84          PAGES: 56
TITLE/SUBJECT: "FUGITIVE PARTICULATE EMISSIONS" MEMORANDUM FROM COLORADO
               DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL DIVISION,
               DENVER, COLORADO.
       AUTHOR: TISTINIC, T.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021702          NUMBER: 100272          DATE: 07/00/81          PAGES: 165
TITLE/SUBJECT: "COAL MINING EMISSION FACTOR DEVELOPMENT AND MODELING STUDY"
               TRC PROJECT # 0908-D10-05.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TRC
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100273          DATE: 09/00/84          PAGES:
TITLE/SUBJECT: "AIR QUALITY CRITERIA FOR LEAD. REVIEW DRAFT. ENVIRONMENTAL
               CRITERIA AND ASSESSMENT OFFICE. EPA/600 8-83-02 8B
               AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100274          DATE: 10/00/85          PAGES:
TITLE/SUBJECT: "LABORATORY DATA VALIDATION: FUNCTIONAL GUIDELINES FOR
               EVALUATING INORGANICS ANALYSES" WASHINGTON D.C.
               AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100275          DATE: 00/00/86          PAGES:
TITLE/SUBJECT: "COMPILATION OF DATA COLLECTED BY EPA IN THE VICINITY OF
               MILL CREEK, MONTANA"(DOCUMENT CONTROL NO. 228-TS1-RT-CYTQ-1)
               DOCUMENT AVAILABLF UPON REQUEST.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100276          DATE: 00/00/71          PAGES:
TITLE/SUBJECT: "STATISICAL PRINCIPLES IN EXPERIMENTAL DESIGN.
               NEW YORK, NY. 907 PAGES
               AVAILABLE UPON REQUEST
       AUTHOR: WINER, B.J.
 ORGANIZATION: MCGRAW-HILL BOOK CO.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100277          DATE: 07/29/82         PAGES: 15
TITLE/SUBJECT: TRANSMITTAL OF "AMBIENT AIR MONITORING PLAN FOR DEER LODGE
               VALLEY". DOCUMENT ATTACHED.
       AUTHOR: JONES, W.S.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: ROBBINS, HAROLD W.
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER
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FILE: 2021702          NUMBER: 100278          DATE: 11/00/79         PAGES: 15
TITLE/SUBJECT: "MONTANA AIR POLLUTION STUDY - A STUDY OF THE FEASIBILITY
               OF PERFORMING AN INVENTORY OF HISTORICAL EMISSIONS AT BUTTE
               AND ANACONDA, MONTANA, NOVEMBER 1979"
       AUTHOR: RAISCH, ROBERT., ET AL
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100279          DATE: 08/17/79         PAGES: 113
TITLE/SUBJECT: "MONTANA AIR POLLUTION STUDY - UPDATE AND IMPROVEMENT OF THE
               EMISSION INVENTORY - NOVEMBER 1979". (FINAL REPORT
               MRI PROJECT NO. 4527-L)
       AUTHOR: BOHN, RUSSEL., ET AL
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100280          DATE: 00/00/75         PAGES: 175
TITLE/SUBJECT: "BACKGROUND GEOCHEMISTRY OF SOME ROCKS, SOILS, PLANTS, AND
               VEGETABLES IN THE CONTERMINOUS UNITED STATES" GEOLOGICAL
               SURVEY PROFESSIONAL PAPER 574-F.
       AUTHOR: CONNOR, JON J., ET AL
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100281          DATE: 09/28/87         PAGES: 8
TITLE/SUBJECT: TRANSMITTAL OF ADDITIONAL REFERENCES CITED IN THE FINAL
               MILL CREEK RI/FS AND A LIST OF THE ENCLOSED REFERENCES.
       AUTHOR: GLASS, GREGORY
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702          NUMBER: 100282          DATE: 00/00/80         PAGES: 13
TITLE/SUBJECT: "EFFECTS OF AIR POLLUTION FROM COPPER SMELTERS ON A
               DESERT GRASSLAND COMMUNITY" VOL. 20:61-72.
       AUTHOR: DAWSON, J.L., ET AL
 ORGANIZATION: ENVIRON. EXPER. BOT.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702 NUMBER: 100283 DATE: 00/00/79 PAGES: 13
TITLE/SUBJECT: "PHYTOTOXICITY OF ZINC, NICKEL, CADMIUM, LEAD, COPPER, AND CHROMIUM IN THREE PASTURE PLANT SPECIES SUPPLIED WITH GRADUATED AMOUNTS FROM THE SOIL" VOL. 27:241-253.
AUTHOR: DIJKSHOORN, W., ET AL
ORGANIZATION: NETHERLANDS JOURNAL OF AGRICULTURAL SCIENCE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021702 NUMBER: 100284 DATE: 00/00/84 PAGES: 7
TITLE/SUBJECT: "CHEMISTRY AND ECOTOXICOLOGY OF POLLUTION" PP. 354-363.
AUTHOR: CONNELL, D.W., ET AL
ORGANIZATION: JOHN WILEY & SONS, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100285 DATE: 00/00/80 PAGES: 110
TITLE/SUBJECT: "AERIAL HEAVY METAL POLLUTION AND TERRESTRIAL ECOSYSTEMS" IN: ADVANCES IN ECOLOGICAL RESEARCH VOL. II. A. MACFADYEN, EDITOR. PP. 217-327.
AUTHOR: HUGHES, M.K., ET AL
ORGANIZATION: ACADEMIC PRESS
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 100286 DATE: 00/00/83 PAGES: 30
TITLE/SUBJECT: "UPTAKE, TRANSLOCATION AND PHYTOTOXICITY OF ARSENIC IN PLANTS" IN: ARSENIC. W.H. LEDERER AND R.J. FENSTERHEIM, EDITORS. PP. 348-375.
AUTHOR: WAUCHOPE, R.D., ET AL
ORGANIZATION: VAN NOSTRAND REINHOLD COMPANY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021702 NUMBER: 300155A DATE: 06/11/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF SAMPLING LOCATIONS AND RESULTS.
AUTHOR: JONES, RICHARD
ORGANIZATION: USEPA-VIII
ADDRESSEE: SMITH, CHARLES
ORGANIZATION: CITIZEN(S) OF ANACONDA, MONTANA
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100005 DATE: 11/14/86 PAGES: 2
TITLE/SUBJECT: REGARDING A REQUEST FOR THE STATE'S ASSESSMENT OF APPLICABLE OR RELEVANT AND APPROPRIATE STATE REQUIREMENTS FOR THE MILL CREEK REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS).
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100008 DATE: 11/26/86 PAGES: 3
TITLE/SUBJECT: A LIST OF APPLICABLE AND RELEVANT REQUIREMENTS OF THE STATE'S SURFACE AND GROUNDWATER NONDEGRADATION POLICY AND GROUNDWATER CLASSIFICATION SYSTEM TO THE MILL CREEK SUPERFUND REMEDIAL ACTION.
AUTHOR: SHEWMAN, FRED
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100015 DATE: 12/18/86 PAGES: 12
TITLE/SUBJECT: TRANSMITTAL OF THE LISTINGS OF STANDARDS AND CRITERIA PROVIDED BY THE RESPONSIBLE STATE AGENCIES IN RESPONSE TO A NOVEMBER 14, 1986 REQUEST FOR THE STATE'S ASSESSMENT OF APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS FOR REMEDIAL ACTION AT MILL CREEK.
AUTHOR: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100017A DATE: 03/06/87 PAGES: 2
TITLE/SUBJECT: REGARDING THE APPLICABLE OR RELEVANT AND APPROPRIATE STANDARDS, LIMITATIONS, CRITERIA AND REQUIREMENTS OF PROMULGATED STATE OF MONTANA ENVIRONMENTAL LAWS IN REFERENCE TO THE MILL CREEK REMEDIAL INVESTIGATION FEASIBILITY STUDY. REQUESTS A MEETING FOR 3/9/87, TO PROVIDE EPA INFORMATION.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: JOHNSON, HOWARD
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100018 DATE: 03/11/87 PAGES: 3
TITLE/SUBJECT: RESPONSE TO MIKE BISHOP'S CONCERNS REGARDING THE MILL CREEK RI/FS APPLICABILITY OF AIR QUALITY RULES EXPRESSED IN HIS MARCH 6, 1987 LETTER.
AUTHOR: STERNBERG, STAN
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: ORR, KATHERINE
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: MEMO

FILE: 2021703 NUMBER: 100019 DATE: 07/00/86 PAGES: 107
TITLE/SUBJECT: "STATE OF MONTANA AIR QUALITY RULES"
AUTHOR: ROBBINS, HAL
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021703 NUMBER: 100020 DATE: 03/12/87 PAGES: 1
TITLE/SUBJECT: REQUESTING SPECIFIC INFORMATION CONCERNING THE WORKING DEFINITIONS OF "APPLICABLE", "RELEVANT", AND "APPROPRIATE", THE ARRAY OF REMEDIES BEING CONSIDERED FOR MILL CREEK, FEDERAL LAWS REGARDING REMEDIAL ACTIONS FOR MILL CREEK, AND SPECIFICALLY WORDED LEGAL QUESTIONS.
AUTHOR: ORR, KATHERINE
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: CALLAWAY, REX
ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100021 DATE: 04/20/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF COPIES OF CAROLE MASSMAN'S LETTER OF APRIL 14 AND THE COMMENTS PROVIDED TO HER FROM VARIOUS DNRC PROGRAM OFFICERS.(ONE COPY ENCLOSED)
AUTHOR: JOHNSON, HOWARD
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021703 NUMBER: 100022 DATE: 04/14/87 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF THE STATE LAW AND RULES WHICH ARE MORE STRINGENT THAT FEDERAL REQUIREMENTS: CONSTRUCTION STANDARDS FOR WATER WELLS, FLOODPLAIN MANAGEMENT REGULATIONS, MINIMUM STANDARDS FOR STREAMBED PROJECTS, WATER RIGHTS PERMITS, AND LICENSING OF WELL DRILLERS. (RULES NOT ATTACHED)
AUTHOR: MASSMAN, CAROLE
ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
ADDRESSEE: JOHNSON, HOWARD
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: MEMO

FILE: 2021703 NUMBER: 100023 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: COMMENTS - STATE REQUIREMENTS AND STANDARDS CONCERNING STREAMBEDS WHICH ARE APPLICABLE TO THE MILL CREEK RI/FS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021703 NUMBER: 100024 DATE: 03/13/87 PAGES: 1
TITLE/SUBJECT: COMMENTS REGARDING FLOODPLAIN MANAGEMENT REGULATIONS IN RESPONSE TO EPA'S REQUEST REGARDING THE PROGRAM'S INVOLVEMENT WITH THE PROPOSED MILL CREEK SUPERFUND CLEANUP IN DEER LODGE COUNTY.
AUTHOR: HAMILL, JOHN
ORGANIZATION: NOT INDICATED
ADDRESSEE: MASSMAN, CAROLE
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021703 NUMBER: 100025 DATE: 04/08/87 PAGES: 1
TITLE/SUBJECT: A LIST OF REQUIREMENTS AND STANDARDS REGARDING THE DRILLING OF WATER WELLS FOR EPA'S REVIEW OF STATE REQUIREMENTS WITH REFERENCE TO THE MILL CREEK REMEDIAL INVESTIGATION AND FEASIBILITY STUDY.
AUTHOR: CUTLER, DIANA C.
ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
ADDRESSEE: MASSMAN, CAROLE
ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
DOCUMENT TYPE: MEMO

FILE: 2021703 NUMBER: 100026 DATE: 03/19/87 PAGES: 1
TITLE/SUBJECT: A LIST OF THE BOARD OF WATER WELL CONTRACTORS MINIMUM CONSTRUCTION STANDARDS FOR WATER WELLS RELATIVE TO THE MILL CREEK REMEDIAL INVESTIGATION AND FEASIBILITY STUDY.
AUTHOR: CUTLER, DIANA C.
ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
ADDRESSEE: MASSMAN, CAROLE
ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
DOCUMENT TYPE: MEMO

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FILE: 2021703          NUMBER: 100027          DATE: 03/30/87          PAGES: 1
TITLE/SUBJECT: RESPONSES TO THE THREE QUESTIONS CONTAINED IN MIKE BISHOP'S
               LETTER OF MARCH 6, 1987 REQUESTING INFORMATION ON STATE
               REQUIREMENTS FOR THE MILL CREEK REMEDIAL INVESTIGATION AND
               FEASIBILITY STUDY.  THE INFORMATION PROVIDED IS ON WATER
               RIGHTS.
       AUTHOR: GUSE, RONALD J.
 ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
    ADDRESSEE: MASSMAN, CAROLE
 ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
DOCUMENT TYPE: MEMO
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FILE: 2021703          NUMBER: 100028          DATE: 08/27/87E         PAGES: 66
TITLE/SUBJECT: "EVALUATION AND IDENTIFICATION OF 'APPLICABLE OR RELEVANT
               AND APPROPRIATE' FEDERAL AND STATE REQUIREMENTS FOR MILL
               CREEK, MONTANA, CERCLA SITE" AND TWO APPENDICES WHICH
               ANALYZE BOTH THE FEDERAL AND STATE REQUIREMENTS FOR THE
               MILL CREEK, MONTANA SITE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704          NUMBER: 100001          DATE: 12/05/84          PAGES: 2
TITLE/SUBJECT: SUMMARY OF POINTS OF CONCENSUS CONCERNING COMMUNITY
               RELATIONS ACTIVITIES AT THE ANACONDA SMELTER SITE WHICH
               WERE REACHED AT THE MEETING ON NOVEMBER 29, 1984.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100002          DATE: 12/13/84          PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE PRESENTATIONS TO BE GIVEN BY EPA,
               MDHES, SYSTEC, AND AMC AT THE ANACONDA ADVISORY COUNCIL
               MEETING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100003          DATE: 00/00/85          PAGES: 8
TITLE/SUBJECT: "COMMUNITY RELATIONS PLAN - ANACONDA SMELTER SITE -
               ANACONDA, MONTANA"--OUTLINES THE BACKGROUND (SITE
               BACKGROUND, COMMUNITY CONCERNS, KEY ISSUES), COMMUNITY
               RELATIONS OBJECTIVES, AND COMMUNITY RELATIONS TECHNIQUES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704          NUMBER: 100004          DATE: 00/00/00          PAGES: 4
TITLE/SUBJECT: "AIR QUALITY MONITORING EXISTING CONFIGURATION" AND "AIR
               QUALITY MONITORING NEW CONFIGURATION"--MAPS OF SAMPLING
               POINTS AND TABLES LISTING THE SITE NAME, MAP LOCATION,
               STATE OR COMPANY RESPONSIBILITY, MONITORING FREQUENCY, AND
               THE AIR POLLUTION MEASUREMENTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MAP/DRAWING/DIAGRAM
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FILE: 2021704 NUMBER: 100005 DATE: 02/20/85 PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100006 DATE: 02/21/85 PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE PRESENTATIONS TO BE GIVEN BY EPA, MDHES, AND AMC AT THE ANACONDA ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100007 DATE: 03/21/85 PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE PRESENTATIONS TO BE GIVEN BY CDC, EPA, MDHES, AMC, AND THE GOV. STAFF AT THE ANACONDA ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100008 DATE: 04/08/85E PAGES: 1
TITLE/SUBJECT: SUMMARY REPORT ON SITE MONITOR ACTIVITIES - ANACONDA DEMOLITION PROJECT FROM APRIL 8, 1985 TO JUNE 21, 1985.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021704 NUMBER: 100009 DATE: 04/18/85 PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE PRESENTATIONS TO BE GIVEN BY EPA, MDHES, AND AMC AT THE ANACONDA ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100010 DATE: 04/18/85 PAGES: 2
TITLE/SUBJECT: SUMMARY MINUTES - EPA - ADVISORY COUNCIL--TOPICS ADDRESSED WERE: INTRODUCTION OF THE COMMUNITY RELATIONS SPECIALIST, PROGRESS ON HEALTH EFFECTS STUDIES, SEWAGE TREATMENT PLANT UPDATE, WATER QUALITY IN THE ALLUVIAL AQUIFER, UPDATE RI/FS PROCESS, DUST CONTROL, AND ON SITE MONITOR REPORT.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

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FILE: 2021704         NUMBER: 100011          DATE: 06/00/85          PAGES: 4
TITLE/SUBJECT: "SUPERFUND PROGRAM FACT SHEET - ANACONDA SMELTER SITE"--
               CONTAINS AN INTRODUCTION TO SUPERFUND, BACKGROUND ON THE
               ANACONDA SMELTER SUPERFUND SITE, INFORMATION ON THE REMEDIAL
               INVESIGATION/FEASIBILITY STUDY (RI/FS), INFORMATION ON HOW
               TO OBTAIN PUBLIC INFORMATION, AND A GLOSSARY OF TERMS USED.
        AUTHOR: NOT INDICATED
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021704         NUMBER: 100012          DATE: 06/20/85          PAGES: 3
TITLE/SUBJECT: REGARDING THE EPA'S ANNOUNCEMENT THAT LEVELS OF ARSENIC
               FOUND IN CHILDREN'S URINE DURING A RECENT ARSENIC EXPOSURE
               STUDY ARE NOT HIGH ENOUGH TO CAUSE IMMEDIATE TOXIC EFFECTS
               ALONG WITH AN ATTACHED FACT SHEET WHICH ANSWERS QUESTIONS
               ON THE ARSENIC EXPOSURE STUDY.
        AUTHOR: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MEMO
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FILE: 2021704         NUMBER: 100013          DATE: 06/20/85          PAGES: 7
TITLE/SUBJECT: AN AGENDA AND SUMMARY OF THE ANACONDA/DEER LODGE COUNTY
               ENVIRONMENTAL ADVISORY COMMITTEE MEETING WHICH COVERED THE
               TOPICS:  HEALTH EFFECTS STUDIES, RI/FS UPDATE,DEVELOPMENT OF
               REMEDIAL ALTERNATIVES, COMMUNITY RELATION ACTIVITIES,
               CONTENT/FREQUENCY OF MEETINGS AND ON SCENE MONITOR REPORT.
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 2021704         NUMBER: 100014          DATE: 07/09/85          PAGES: 3
TITLE/SUBJECT: SUMMARY REPORT ON PRESS BRIEFING AND PUBLIC MEETING
               REGARDING THE WINTER URINARY ARSENIC STUDY, ANACONDA,
               MONTANA MARCH 1985.  (LIST OF ATTENDEES AND QUESTIONS OF
               NOTE FROM THE PRESS)
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704         NUMBER: 100015          DATE: 07/18/85          PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING.  TOPICS LISTED:
               UPDATE ON THE RI/FS PROCESS, PRESENTATION OF THE HEALTH
               EFFECTS SOILS DATA REPORT, COMMUNITY RELATION ACTIVITIES,
               ON SCENE MONITOR REPORT, AND IMMEDIATE REMOVAL ACTIVITIES.
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
 DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100016          DATE: 08/00/85          PAGES: 2
TITLE/SUBJECT: "SUPERFUND PROGRAM FACT SHEET - ANACONDA SMELTER SITE"--
               INFORMATION ON THE WINTER URINARY ARSENIC SURVEY AND HOW
               TO OBTAIN PUBLIC INFORMATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704          NUMBER: 100017          DATE: 08/15/85          PAGES: 5
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING, AN EPA SUMMARY OF
               THE MEETING, AND A SUMMARY REPORT OF THE ON SITE MONITOR
               ACTIVITIES OF THE ANACONDA SMELTER DEMOLITION PROJECT FROM
               JUNE 24, 1985 TO JULY 26, 1986.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100018          DATE: 09/19/85          PAGES: 4
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING, AN EPA SUMMARY OF
               MEETING, AND A SUMMARY REPORT OF THE ON SITE MONITOR
               ACTIVITIES OF THE ANACONDA SMELTER DEMOLITION PROJECT FROM
               JULY 29, 1985 TO AUGUST 30, 1985.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100019          DATE: 10/00/85          PAGES: 6
TITLE/SUBJECT: "SUPERFUND PROGRAM FACT SHEET - ANACONDA SMELTER SITE"--
               INFORMATION ON THE ANACONDA SMELTER SITE REMEDIAL
               INVESTIGATION/FEASIBILITY STUDY.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704          NUMBER: 100020          DATE: 10/17/85          PAGES: 4
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING, AN EPA SUMMARY OF
               THE MEETING, AND A SUMMARY REPORT ON THE ON SITE MONITOR
               ACTIVITIES OF THE ANACONDA SMELTER DEMOLITION PROJECT FROM
               SEPTEMBER 3, 1985 TO OCTOBER 4, 1985.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100021          DATE: 11/04/85E         PAGES: 1
TITLE/SUBJECT: SUMMARY REPORT OF THE ON SITE MONITOR ACTIVITIES OF THE
               ANACONDA SMELTER DEMOLITION PROJECT FROM NOVEMBER 4, 1985 TO
               NOVEMBER 22, 1985.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704          NUMBER: 100022          DATE: 10/21/85          PAGES: 5
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING, AN EPA SUMMARY OF
               THE MEETING, AND A SUMMARY REPORT OF THE ON SITE MONITOR
               ACTIVITIES OF THE ANACONDA SMELTER DEMOLITION PROJECT FROM
               OCTOBER 10, 1985 TO NOVEMBER 1, 1985.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
---------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100023          DATE: 12/10/85          PAGES: 1
TITLE/SUBJECT: A NOTICE THAT THE EPA IS CALLING A SPECIAL COMMUNITY
               MEETING FOR TUESDAY DECEMBER 10 TO ALLOW DR. SUE BINDER
               TO REVIEW WITH THE PUBLIC THE FINDINGS OF THE SUMMER URINARY
               ARSENIC SURVEY; AND AN AGENDA LISTING THE EPA PORTION OF THE
               ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100024          DATE: 12/10/85          PAGES: 4
TITLE/SUBJECT: "FACT SHEET ON ANACONDA SMELTER SUPERFUND SITE"--INFORMATION
               IN A QUESTION AND ANSWER FORMAT INTEDED TO PROVIDE FURTHER
               INFORMATION ON PAST AND FUTURE EPA ACTIONS AT THE ANACONDA
               SITE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
---------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100025          DATE: 12/10/85          PAGES: 10
TITLE/SUBJECT: EPA SUMMARY OF THE ANACONDA/DEER LODGE COUNTY ENVIRONMENTAL
               COUNCIL MEETING IN QUESTION AND ANSWER FORMAT USING
               QUESTIONS OF NOTE FROM THE PRESS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100026          DATE: 12/20/85          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A LIST OF HYGIENE MEASURES THAT WOULD HELP
               ALL RESIDENTS OF MILL CREEK MINIMIZE THEIR EXPOSURE TO
               CONTAMINATED SOILS AND DUST.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
---------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100027          DATE: 01/06/86E         PAGES: 2
TITLE/SUBJECT: TWO SUMMARY REPORTS OF THE ON SITE MONITOR ACTIVITIES OF THE
               ANACONDA SMELTER DEMOLITION PROJECT FROM NOVEMBER 25, 1985
               TO JANUARY 3, 1986 AND FROM JANUARY 6, 1986 TO FEBRUARY 7,
               1986.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704 NUMBER: 100028 DATE: 01/16/86 PAGES: 1
TITLE/SUBJECT: A NOTICE OF A SPECIAL MEETING CALLED BY THE EPA TO DISCUSS WITH THE RESIDENTS OF MILL CREEK EPA'S CONCLUSIONS CONCERNING THE POTENTIAL NEED FOR RELOCATION DURING THE PERIOD PRIOR TO THE PROPOSED SPRING CLEANUP; AND AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA ADVISORY MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100029 DATE: 01/16/86 PAGES: 1
TITLE/SUBJECT: A NOTICE OF A SPECIAL MEETING FOR THE MILL CREEK RESIDENTS ONLY TO DISCUSS EPA'S DECISION CONCERNING WHETHER TEMPORARY RELOCATION OF MILL CREEK RESIDENTS PRIOR TO THE SPRING CLEANUP IS WARRANTED; AND AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100030 DATE: 01/16/86 PAGES: 1
TITLE/SUBJECT: "FACT SHEET ON ANACONDA SMELTER SUPERFUND SITE"--DISCUSSES THE TOPICS OF EPA/AMC FLUE DUST CONSENT ORDER, TEMPORARY RELOCATION OF MILL CREEK RESIDENTS, SPRING CLEAN UP, AND IMPROVED HOUSEKEEPING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021704 NUMBER: 100031 DATE: 01/16/86 PAGES: 10
TITLE/SUBJECT: EPA SUMMARY OF A MEETING WITH MILL CREEK RESIDENTS IN QUESTION AND ANSWER FORM.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100032 DATE: 01/28/86 PAGES: 1
TITLE/SUBJECT: SUMMARY OF A SPECIAL EAC MEETING--REVIEWED THE INFORMATION ON MILL CREEK WHICH WAS PROVIDED AT THE JANUARY 16, 1986 PUBLIC MEETING AND DISCUSSED THE MEASURES THE COUNTY/COMMITTEE SHOULD TAKE IN THIS PROCESS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021704 NUMBER: 100033 DATE: 02/10/86E PAGES: 1
TITLE/SUBJECT: SUMMARY REPORT OF THE ON SITE MONITOR ACTIVITIES OF THE ANACONDA SMELTER DEMOLITION PROJECT FROM FEBRUARY 10, 1986 TO MARCH 7, 1986.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021704        NUMBER: 100034        DATE: 02/20/86         PAGES: 2
TITLE/SUBJECT: EPA SUMMARY OF THE ANACONDA/DEER LODGE COUNTY ENVIRONMENTAL
               ADVISORY COUNCIL MEETING--TOPICS DISCUSSED WERE THE HUMAN
               HEALTH STUDY, MILL CREEK CLEAN UP UPDATE, FLUE DUST,
               RI/FS UPDATE, AND COMMUNITY RELATIONS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 2021704        NUMBER: 100035        DATE: 03/10/86E        PAGES: 2
TITLE/SUBJECT: SUMMARY REPORT OF THE ON SITE MONITOR ACTIVITIES OF THE
               ANACONDA SMELTER DEMOLITION PROJECT FROM MARCH 10, 1986 TO
               APRIL 4, 1986; AND AN AGENDA LISTING THE EPA PORTION OT THE
               ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING ON APRIL 17,
               1986.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704        NUMBER: 100036        DATE: 03/27/86         PAGES: 1
TITLE/SUBJECT: AN AGENDA LISTING THE EPA PORTION OF THE ANACONDA
               ENVIRONMENTAL ADVISORY COUNCIL MEETING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704        NUMBER: 100037        DATE: 03/27/86         PAGES: 3
TITLE/SUBJECT: EPA SUMMARY OF THE ANACONDA/DEER LODGE COUNTY ENVIRONMENTAL
               ADVISORY COUNCIL MEETING--TOPICS DISCUSSED WERE THE HUMAN
               HEALTH STUDY, MILL CREEK CLEAN UP UPDATE, RI/FS UPDATE,
               COMMUNITY RELATIONS, ON-SCENE MONITOR REPORT, AND AIR
               QUALITY REPORT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 2021704        NUMBER: 100038        DATE: 05/01/86         PAGES: 2
TITLE/SUBJECT: "FACT SHEET - MILL CREEK, MONTANA"--INFORMATION ON TEMPORARY
               AND PERMANENT REMOVAL OF RESIDENTS BY THE EPA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021704        NUMBER: 100039        DATE: 05/01/86         PAGES: 2
TITLE/SUBJECT: SUMMARY OF AN EPA PUBLIC MEETING --A MEETING WAS HELD WITH
               THE RESIDENTS OF MILL CREEK AT 6PM AND A PUBLIC MEETING
               FOLLOWED AT 7PM, AT WHICH THEY MAINLY DISCUSSED RELOCATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100040          DATE: 05/29/86          PAGES: 1
TITLE/SUBJECT: EPA SUMMARY OF AN EAC MEETING--DISCUSSIONS MAINLY CENTERED
               AROUND RELOCATION OF MILL CREEK RESIDENTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021704          NUMBER: 100041          DATE: 07/00/86E         PAGES: 6
TITLE/SUBJECT: "SUPERFUND PROGRAM FACT SHEET - ANACONDA SMELTER SITE"--
               INFORMATION ON THE MILL CREEK SITE (BACKGROUND,
               INVESTIGATIVE STUDY RESULTS, EPA ACTION, INFORMATION
               AVAILABLE, GLOSSARY OF TERMS, AND PUBLIC CONCERN AND EPA
               RESPONSE).
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100042          DATE: 07/10/86          PAGES: 1
TITLE/SUBJECT: STATING THAT UNDER THE TERMS OF AN ADMINISTRATIVE ORDER ON
               CONSENT ISSUED RECENTLY BY THE USEPA, THE ANACONDA MINERALS
               COMPANY HAS AGREED TO TAKE THE LEAD IN CONDUCTING A THOROUGH
               REVIEW OF ENVIRONMENTAL IMPACTS AND CLEANUP ALTERNATIVES IN
               THE COMMUNITY OF MILL CREEK, MONTANA.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100043          DATE: 07/24/86E         PAGES: 1
TITLE/SUBJECT: AGENDA-EPA PORTION OF QUARTERLY ANACONDA ENVIRONMENTAL
               ADVISORY COUNCIL MEETING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100044          DATE: 09/00/86          PAGES: 5
TITLE/SUBJECT: "SUPERFUND PROGRAM UPDATE -ANACONDA SMELTER SITE" NOTICE OF
               PUBLIC MEETING TO BE HELD REGARDING THE DRAFT RI/FS. MENTION
               OF ALTERNATIVES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100045          DATE: 10/07/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF DRAFT COMMUNITY RELATIONS PLAN.
       AUTHOR: COX, MARION
 ORGANIZATION: ICF, INCORPORATED
    ADDRESSEE: ERICSON, JAMES W.
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021704          NUMBER: 100046         DATE: 10/13/86E        PAGES: 17
TITLE/SUBJECT: "PERFORMANCE OF REMEDIAL RESPONSE ACTIVITIES AT UNCONTROLLED
               HAZARDOUS WASTE SITES (REM II). DRAFT COMMUNITY RELATIONS
               PLAN.
       AUTHOR: SCRIMGEOUR, DON
 ORGANIZATION: REM II REMEDIAL RESPONSE TEAM
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100046A        DATE: 12/19/86         PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF 50 COPIES OF THE MILL CREEK REMEDIAL
               INVESTIGATION REPORT AND NOTES LOCATION OF X-MET
               SAMPLE STATIONS IN FIGURES 9,10, AND 11.
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100047         DATE: 12/23/86E        PAGES: 1
TITLE/SUBJECT: "MEETING NOTICE" EPA PUBLIC MEETING RELEASING THE MILL CREEK
               RI/FS FOR PUBLIC REVIEW AND COMMENT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100048         DATE: 12/23/86         PAGES: 13
TITLE/SUBJECT: "FACT SHEET-MILL CREEK OPERABLE UNIT" INCLUDES OPTIONS FOR
               CORRECTIVE ACTIONS,SUMMARY OF REMEDIAL ACTION ALTERNATIVES,
               NATURE AND EXTENT OF CONTAMINATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
--------------------------------------------------------------------------------

FILE: 2021704          NUMBER: 100049         DATE: 12/23/86         PAGES: 2
TITLE/SUBJECT: REQUEST FOR COMMENTS ON THE MILL CREEK, MONTANA RI/FS.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: ASPHOLM, AUDREY
 ORGANIZATION: NOT INDICATED
D  UMENT TYPE: MEMO
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F  E: 2021704          NUMBER: 100049A        DATE: 12/00/86         PAGES: 313
T  LE/SUBJECT: "MILL CREEK REMEDIAL INVESTIGATION REPORT"
               (PUBLIC COMMENT VERSION)
       AUTHOR: NOT INDICATED
   GANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704         NUMBER: 100049B         DATE: 12/00/86          PAGES:
TITLE/SUBJECT: "DRAFT FEASIBILITY STUDY REPORT, MILL CREEK, MONTANA,
               REMEDIAL INVESTIGATION/FEASIBILITY STUDY." REVISION 2
               DECEMBER 1986 (PUBLIC COMMENT VERSION)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704         NUMBER: 100049C         DATE: 12/00/86E         PAGES:
TITLE/SUBJECT: REMEDIAL INVESTIGATION/FEASIBILITY STUDY REPORT SUPPLEMENT
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021704         NUMBER: 100049D         DATE: 11/26/86E         PAGES: 3
TITLE/SUBJECT: "ATTACHMENT I - APPLICABLE OR RELEVANT AND APPROPRIATE STATE
               REQUIREMENTS" AND "ATTACHMENT II - PHYTOTOXICITY STUDIES AND
               REFERENCES"
       AUTHOR: NOT INDICATED
 ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704         NUMBER: 100050          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: "FOR IMMEDIATE RELEASE - HELENA--THE U.S. EPA HAS ANNOUNCED
               A PUBLIC COMMENT PERIOD ON PROPOSED SUPERFUND WORK IN MILL
               CREEK AT THE ANACONDA SMELTER SITE IN SOUTHWESTERN MONTANA.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021704         NUMBER: 100051          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: "FOR IMMEDIATE RELEASE - DENVER--FAMILIES WITH SMALL
               CHILDREN WILL BE GIVEN THE OPPORTUNITY TO MOVE FROM A
               COMMUNITY CONTAMINATED WITH ARSENIC AND OTHER METALS."
       AUTHOR: JONES, RICHARD
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021704         NUMBER: 100052          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: "FACT SHEET - TEMPORARY RELOCATION OF FAMILIES IN MILL
               CREEK, MONTANA."
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021704 NUMBER: 100053 DATE: 01/02/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF ORIGINAL TRANSCRIPT OF PROCEEDINGS OF EPA MILL CREEK PUBLIC HEARING HELD ON DECEMBER 23, 1986.
AUTHOR: CANDI NORDHAGEN
ORGANIZATION: REGISTERED PROFESSIONAL REPORTER
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021704 NUMBER: 100054 DATE: 12/23/86 PAGES: 42
TITLE/SUBJECT: U.S. EPA PUBLIC HEARING.MILL CREEK OPERABLE UNIT ANACONDA SMELTER SITE - TRANSCRIPT OF PROCEEDINGS.
AUTHOR: CANDI NORDHAGEN
ORGANIZATION: REGISTERED PROFESSIONAL REPORTER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT

FILE: 2021704 NUMBER: 100055 DATE: 04/14/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF MEMORANDUM FROM THE ATSDR CONCERNING THE URINARY ARSENIC SURVEY THAT INVOLVED RELOCATED MILL CREEK RESIDENTS.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021704 NUMBER: 100056 DATE: 04/09/87 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF MEMO FROM DR. BINDER CONCERNING THE PRE- AND POST-MOVE URINARY ARSENIC LEVELS FOR THE CITIZENS OF MILL CREEK.
AUTHOR: MCGEEHIN, MICHAEL
ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021704 NUMBER: 100057 DATE: 03/03/87 PAGES: 2
TITLE/SUBJECT: DISCUSSION OF MILL CREEK PRE- AND POST-MOVE URINARY ARSENIC LEVELS.
AUTHOR: BINDER, SUE (M.D.)
ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO

FILE: 2021705 NUMBER: 100001 DATE: 02/11/86 PAGES: 1
TITLE/SUBJECT: CONFIRMING TELEPHONE DISCUSSIONS REGARDING THE LETTER DATED FEBRUARY 7, 1986 IN REFERENCE TO OILING ROADS IN THE MILL CREFK AREA. ANACONDA VIEWS THE OILING AS AN INTERIM MEASURE AND A COST EFFECTIVE MEANS OF EVALUATING THE SUCCESS OF A PATHWAY INTERRUPTER AND WILL SEEK A LONGER TERM SOLUTION.
AUTHOR: WINDORSKI, J.C.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BIFOSS, R. BEN
ORGANIZATION: CITY-COUNTY MANAGER, ANACONDA-DEER LODGE COUNTY
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100001A DATE: 08/30/85 PAGES: 5
TITLE/SUBJECT: ADDRESSING ANACONDA'S POSITION AFTER THE 8/28/85 MEETING CONCERNING THE EPA'S DRAFT ADMINISTRATIVE CONSENT ORDER ON THE SMELTER SITE SO THAT THERE WILL BE NO MISUNDERSTANDINGS AND THAT EPA'S EFFORTS CAN BE FACILITATED IN COMING UP WITH A SECOND DRAFT ON THE AGREEMENT.
AUTHOR: TILMAN, RAY
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100002 DATE: 05/13/86 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF A LIST OF ITEMS THE EPA AND ANACONDA MINERALS COMPANY AGREED TO PROVIDE EACH OTHER OVER THE COURSE OF THE NEXT FEW WEEKS WHICH WERE DISCUSSED AT THE MILL CREEK RI/FS MEETING HELD ON MAY 7TH. (LIST INCLUDED)
AUTHOR: DOLE, STEPHEN E.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100003 DATE: 05/28/86 PAGES: 1
TITLE/SUBJECT: REGARDING ANACONDA COMPANY'S USE OF OIL AS A DUST SUPPRESSANT IN THE MILL CREEK AREA, AND A LIST OF WHAT THEY MUST SUBMIT TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES PRIOR TO THE USE OF OIL.
AUTHOR: PEDERSON, DICK
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: HALLER, PETER H.
ORGANIZATION: KARR, TUTTLE, KOCH, CAMPBELL, MAWER, MORROW & SAX
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100005 DATE: 06/25/86 PAGES: 2
TITLE/SUBJECT: ADVISING THAT THE ANACONDA MINERALS COMPANY COMPLETED THE INITIAL APPLICATION OF DUST SUPPRESSANT TO THE ROADS, ALLEYS, LANES AND DRIVEWAYS ON JUNE 20, 1986, AND A LIST OF AMC'S EFFORTS TO OBTAIN PERMISSION OF THE LANDOWNERS TO APPLY THE SUPPRESSANT TO THEIR PROPERTY.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100006 DATE: 06/20/86 PAGES: 1
TITLE/SUBJECT: REGARDING THE COMPLETION OF THE DUST SUPPRESSION ACTIVITY ON THE ROADS AND DRIVEWAYS IN THE MILL CREEK AREA BY ANACONDA-DEER LODGE COUNTY UNDER CONTRACT TO THE ANACONDA MINERALS COMPANY.
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: CITY-COUNTY MANAGER, ANACONDA-DEER LODGE COUNTY
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

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FILE: 2021705        NUMBER: 100006A        DATE: 07/29/86       PAGES: 85
TITLE/SUBJECT: "INITIAL ALTERNATIVES SCREENING DOCUMENT - MILL CREEK,
               MONTANA - REMEDIAL INVESTIGATION/FEASIBILITY STUDY"--
               REMEDIAL ACTION ALTERNATIVES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: DAMES & MOORE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705        NUMBER: 100006B        DATE: 07/00/86       PAGES: 74
TITLE/SUBJECT: "AN ANALYSIS OF THE POTENTIAL FOR AIRBORNE RECONTAMINATION
               OF MILL CREEK, MONTANA FROM THE RESUSPENSION, TRANSPORT AND
               DEPOSITION OF SURFACE SOIL ARSENIC FROM THER ANACONDA
               SMELTER SITE"
       AUTHOR: NOT INDICATED
 ORGANIZATION: MCVEHIL-MONNETT ASSOCIATES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705        NUMBER: 100006C        DATE: 07/30/86       PAGES:
TITLE/SUBJECT: TRANSMITTAL OF INITIAL ALTERNATIVE SCREENING DOCUMENT, AN
               ANALYSIS OF AIRBORNE RECONTAMINATION POTENTIAL, & A TOPO-
               GRAPHIC MAP OF MILL CREEK (NOT ATTACHED), AS REQUIRED UNDER
               EPA ADMIN. ORDER ON CONSENT.  CONFIRMS EXTENSION FOR DELIV-
               ERY OF A REPORT IDENTIFYING BACKGROUND METAL CONCENTRATIONS.
       AUTHOR: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021705        NUMBER: 100006D        DATE: 08/01/86       PAGES:
TITLE/SUBJECT: CONTAINS PROGRESS REPORT NO. 1 COVERING THE MONTH OF
               JULY 1986.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705        NUMBER: 100006E        DATE: 08/01/86       PAGES:
TITLE/SUBJECT: NOTIFICATION THAT JACK R. DAVIS AND STEPHEN E. DOLE HAVE
               BEEN DESIGNATED PROJECT LEADER AND ALTERNATE, RESPECTIVELY.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705        NUMBER: 100006F        DATE: 08/08/86       PAGES:
TITLE/SUBJECT: NOTIFICATION THAT MIKE BISHOP AND DOUG SKIE HAVE BEEN
               DESIGNATED AS PROJECT LEADER AND ALTERNATE LEADER,
               RESPECTIVELY.  (YELLOW TISSUE COPY.)
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100007          DATE: 08/14/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF AN INDEPENDENT APPRAISER'S REVIEW OF THE
               DEPARTMENT OF REVENUE'S APPRAISALS OF THE MILL CREEK
               PROPERTIES, AND A SUGGESTION THAT FOR THE PURPOSE OF THE
               RI/FS, THE DEPARTMENT OF REVENUE'S VALUES SHOULD BE USED.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: LAMB, JERRY
 ORGANIZATION: DAMES & MOORE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100008          DATE: 08/13/86          PAGES: 4
TITLE/SUBJECT: REGARDING THE REVIEW OF THE DEPARTMENT OF REVENUE APPRAISALS
               OF THE MILL CREEK SUBDIVISION. AUTHOR FEELS VALUES ARE ON
               THE HIGH SIDE, BUT THEY ARE CONSISTENT AND UNIFORM. (THE
               APPRAISAL LIST IS ATTACHED)
       AUTHOR: MANNING, JAMES M.
 ORGANIZATION: REAL ESTATE APPRAISER
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100008A         DATE: 08/20/86          PAGES:    1
TITLE/SUBJECT: CONFIRMATION THAT ALL RI/FS REPORTS AND SUBSEQUENT REPORTS
               WILL BE WRITTEN IN SUCH A WAY THAT THE REPORT DOES NOT
               IDENTIFY PERSONAL CHARACTERISTICS.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100009          DATE: 08/22/86          PAGES: 14
TITLE/SUBJECT: LETTER CONCERNING EPA'S RESPONSE TO ANACONDA MINERALS
               COMPANY'S: INITIAL ALTERNATIVES SCREENING DOCUMENT FOR MILL
               CREEK; ANALYSIS OF THE POTENTIAL FOR AIRBORNE RECONTAMIN-
               ATION OF MILL CREEK; BACKGROUND AS,CD,& PB CONCENTRATIONS IN
               SOIL,WATER & AIR; AND MILL CREEK MONTANA RI/FS TOPO. MAP
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100009A         DATE: 09/08/86          PAGES:    1
TITLE/SUBJECT: TRANSMITTAL OF ANACONDA RESPONSE TO EPA'S LETTER DATED
               AUGUST 22, 1986 REGARDING THE MILL CREEK IASD
               RECONTAMINATION AND BACKGROUND DOCUMENTS.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100009B         DATE: 00/00/00          PAGES: 71
TITLE/SUBJECT: "ANACONDA RESPONSE TO EPA COMMENTS ON THE MILL CREEK IASD,
               RECONTAMINATION AND BACKGROUND DOCUMENTS" (INITIAL
               ALTERNATIVE SCREENING DOCUMENT)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705 NUMBER: 100009C DATE: 09/16/86E PAGES: 358
TITLE/SUBJECT: ANACONDA DRAFT RI/FS MATERIALS WITH EPA HANDWRITTEN COMMENTS WHICH WERE PROVIDED TO ANACONDA IN HANDWRITTEN FORM AT A MEETING ON SEPTEMBER 16, 1986 IN DENVER, COLORADO. PACKAGE INCLUDES A MEMO ANNOUNCING THE MEETING, COPIES OF THE OVERVIEWS FROM THE MEETING, AND ATTENDANCE SHEET.
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100009D DATE: 09/10/86E PAGES: 2
TITLE/SUBJECT: REGARDING THE REVIEW OF "ANALYSIS OF THE POTENTIAL FOR AIRBORNE RECONTAMINATION OF MILL CREEK, MONTANA FROM THE RESUSPENSION, TRANSPORT AND DEPOSITION OF SURFACE SOIL ARSENIC FROM THE ANACONDA SMELTER SITE." IN CONCLUSION, HE FINDS THE ARSENIC PROBLEM IN AND AROUND MILL CREEK SERIOUS.
AUTHOR: NOTAR, JOHN
ORGANIZATION: USEPA-VIII
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021705 NUMBER: 100009E DATE: 09/11/86 PAGES: 1
TITLE/SUBJECT: CONFIRMATION OF DELIVERY VIA TELEFAX SEPTEMBER 10, 1986 OF THE FOLLOWING DRAFT SECTIONS OF THE MILL CREEK RI/FS: (1) PUBLIC HEALTH CONCERNS, AND (2) DEEP TILL PILOT STUDY.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100010 DATE: 09/18/86 PAGES: 3
TITLE/SUBJECT: A LIST CONFIRMING ANACONDA MINERALS COMPANY'S UNDERSTANDING OF EPA'S VERBAL COMMENTS RESULTANT FROM THE PRESENTATION MEETING OF SEPTEMBER 16, 1986 IN DENVER.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100010A DATE: 09/00/86E PAGES: 283
TITLE/SUBJECT: "MILL CREEK REMEDIAL INVESTIGATION REPORT" (FINAL DRAFT REPORT - DOCUMENT CONTROL NO. TTB 169 FO)
AUTHOR: NOT INDICATED
ORGANIZATION: TETRA TECH, INC.
ADDRESSEE: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100010B DATE: 10/02/86 PAGES: 215
TITLE/SUBJECT: "DRAFT FEASIBILITY STUDY REPORT - MILL CREEK, MONTANA - REMEDIAL INVESTIGATION"
AUTHOR: NOT INDICATED
ORGANIZATION: DAMES & MOORE
ADDRESSEE: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021705          NUMBER: 100011          DATE: 09/25/86           PAGES: 5
TITLE/SUBJECT: REGARDING ADDITIONAL CLARIFICATIONS TO THE ISSUES DISCUSSED
               AT THE SEPTEMBER 16TH EPA/AMC MEETING IN DENVER AND EPA'S
               AUGUST 22ND LETTER REQUESTING CHANGES TO THE DRAFT RI/FS FOR
               MILL CREEK, MONTANA, ETC.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100011A         DATE: 10/14/86           PAGES:
TITLE/SUBJECT: SUMMARY OF STATEMENTS M. BISHOP MADE BY TELEPHONE
               OCTOBER 9, AND RESPONSES THERETO.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100011B         DATE: 12/02/86E          PAGES: 256
TITLE/SUBJECT: "DRAFT FEASIBILITY STUDY REPORT - MILL CREEK, MONTANA -
               REMEDIAL INVESTIGATION/FEASIBILITY STUDY" (REVISION 1)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705          NUMBER: 100012          DATE: 10/21/86           PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A MEMORANDUM FROM RICHARD CHEATHAM THAT
               DETAILS INFORMATION THAT IS NEEDED TO VERIFY THAT THE
               ANACONDA MINERALS COMPANY PERFORMED SAMPLING/ANALYTICAL
               PROCEDURES ACCORDING TO THE ANACONDA SMELTER QUALITY
               ASSURANCE PROJECT PLAN AND LAB ANALYTICAL PROTOCOL.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100013          DATE: 10/20/86           PAGES: 3
TITLE/SUBJECT: TWO LISTS PRESENTING DEFICIENCIES WITH RESPECT TO QAPP AND
               LAP PROJECT REQUIREMENTS FOR THE MILL CREEK, MONTANA RI/FS
               DATABASE FOR WHICH TETRA TECH IS TO PROVIDE SPECIFIC,
               DETAILED DOCUMENTATION THAT THE PROCEDURES HAVE OR HAVE NOT
               BEEN PERFORMED AND THAT QA/QC REQUIREMENTS HAVE BEEN MET.
       AUTHOR: CHEATHAM, RICHARD
 ORGANIZATION: CCJA
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021705          NUMBER: 100014          DATE: 10/31/86           PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF EPA'S COMMENTS ON THE ANACONDA MINERALS COMP-
               ANY'S (AMC) DRAFT REMEDIAL INVESTIGATION (RI) AND FEASIBIL-
               ITY STUDY (FS) REPORTS. ALSO DISCUSSION OF AMC NOT MEETING
               THE REQUIREMENTS OF THE ORDER AND THE WORKPLAN, TO NOT COM-
               MENT ON CLEMENT ASSOC.S (EA) UNTIL THE PUBLIC COMMENT PERIOD
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: KRABLIN, RICHARD
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100015          DATE: 10/31/86E         PAGES: 54
TITLE/SUBJECT: REPORT ENTITLED: I.GENERAL COMMENTS ON DRAFT RI REPORT, II.
               SPECIFIC COMMENTS ON DRAFT RI REPORT, FOR MILL CREEK MT.,
               PLUS APPENDICES OF XRF ANALYSES AND PHYTOTOXICITY DATA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705          NUMBER: 100015A         DATE: 11/07/86          PAGES: 2
TITLE/SUBJECT: INDICATING THAT ANACONDA CANNOT RESPOND TO THE EPA'S
               COMMENTS ON THE DRAFT RI/FS AND INCORPORATE THEM INTO THE
               RI AND FS DOCUMENTS BEFORE THE DEADLINE OF NOVEMBER 17 DUE
               TO FIVE REASONS WHICH ARE LISTED.  ANACONDA ANTICIPATES A
               DELIVERY DATE OF DECEMBER 2, 1986.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100016          DATE: 11/11/86          PAGES: 2
TITLE/SUBJECT: DISCUSSES TWO PROBLEMS:  SYSTEMATIC AND PRECISIONAL ERRORS
               IN SAMPLE LOCATIONS IN THE DATA SET; AND THE PLACING OF
               SAMPLE LOCATIONS ON THE OLD MILL VIEW PLOT MAP WHICH WAS
               DRAWN WITH LESS ACCURACY (1:400) THAN THAT OF THE MILL CREEK
               RI/FS TOPOGRAPHIC MAP (1:100).  RECOMMENDS SOLUTIONS.
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100017          DATE: 11/12/86          PAGES: 2
TITLE/SUBJECT: REGARDING CLARIFICATIONS REQUIRED BEFORE TETRA TECH CAN
               FINALIZE THEIR REVISIONS OF THE RISK ASSESSMENT SECTIONS OF
               THE MILL CREEK RI/FS WHICH ARE BASED ON EPA'S COMMENTS ON
               DRAFT MILL CREEK RI/FS AND ON CLEMENT ASSOCIATES (1986)
               ENDANGERMENT ASSESSMENT FOR MILL CREEK.
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100018          DATE: 11/12/86          PAGES: 65
TITLE/SUBJECT: REGARDING THE EPA'S COMMENTS ON AMC'S DRAFT RI AND FS
               REPORTS, AND AMC'S INTENT TO REVISE THE DRAFT RI/FS IN
               ACCORDANCE WITH EPA'S DIRECTION. (EPA'S COMMENTS ARE
               ATTACHED)
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705 NUMBER: 100018A DATE: 11/14/00 PAGES: 1
TITLE/SUBJECT: POST-IT NOTE: ORIGINAL LETTER MAILED CERTIFIED MAIL 11/14/86. CCs NOT DISTRIBUTED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021705 NUMBER: 100018B DATE: 11/14/86 PAGES: 2
TITLE/SUBJECT: CERTIFIED LETTER GRANTING ANACONDA MINERALS COMPANY A TWO-WEEK EXTENSION FOR SUBMISSION OF THE MILL CREEK REMEDIAL INVESTIGATION/FEASIBILITY STUDY.
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA-VIII
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100018C DATE: 11/14/86 PAGES: 2
TITLE/SUBJECT: CERTIFIED LETTER GRANTING ANACONDA MINERALS COMPANY A TWO-WEEK EXTENSION FOR SUBMISSION OF THE MILL CREEK REMEDIAL INVESTIGATION/FEASIBILITY STUDY. (YELLOW TISSUE COPY.)
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA-VIII
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100019 DATE: 11/19/86 PAGES: 3
TITLE/SUBJECT: CLARIFYING THREE ISSUES RAISED IN A NOVEMBER 12, 1986 LETTER FROM MR. GARY BIGHAM. THE CLARIFICATION WAS NEEDED IN ORDER TO FINALIZE THE RISK ASSESSMENT SECTIONS OF THE RI/FS.
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100020 DATE: 11/19/86E PAGES: 6
TITLE/SUBJECT: IDENTIFYING AREAS WHERE MISUNDERSTANDINGS HAVE OCCURRED OR WHERE CLARIFICATION IS NEEDED IN RESPONSE TO THE NOVEMBER 12, 1986 LETTER CONCERNING EPA'S OCTOBER 31, 1986 COMMENTS ON THE DRAFT MILL CREEK RI/FS.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100021 DATE: 11/20/86E PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A TOPOGRAPHIC MAP (NOT ATTACHED) OF MILL CREEK WHICH SHOWS THE APPROXIMATE SAMPLING LOCATIONS FOR THE SURFACE AND PROFILE SAMPLES COLLECTED BY EPA IN FEBRUARY AND APRIL 1986, RESPECTIVELY, AT THE MILL CREEK SITE.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: BIGHAM, GARY N.
ORGANIZATION: TETRA TECH, INC.
DOCUMENT TYPE: LETTER

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FILE: 2021705          NUMBER: 100022          DATE: 12/01/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE REVISED DRAFT RI/FS REPORTS (NOT
               ATTACHED) WHICH ANACONDA BELIEVES MEETS ALL OF THE
               REQUIREMENTS OF THE ADMINISTRATIVE ORDER AND OF EPA'S
               DIRECTIVES, AND DISCUSSION OF DISCLAIMERS.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100023          DATE: 12/01/86E         PAGES: 1
TITLE/SUBJECT: A DISTRIBUTION LIST OF THE DRAFT MILL CREEK RI AND FS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021705          NUMBER: 100024          DATE: 11/28/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF 20 COPIES OF THE FINAL MILL CREEK RI REPORT
               (NONE ATTACHED) WHICH WAS PREPARED IN ACCORDANCE WITH
               DIRECTION PROVIDED BY THE U.S. EPA IN THE MILL CREEK WORK
               PLAN, ALSO DISCUSSION OF DISCLAIMER.
       AUTHOR: BIGHAM, GARY N.
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100025          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: A DISCLAIMER WHICH STATES THAT DAMES & MOORE IS NOT
               RESPONSIBLE FOR THE OPINIONS AND CONCLUSIONS CONTAINED IN
               THE FEASIBILITY STUDY AND ITS INVOLVEMENT IN THE PREPARATION
               OF THE REVISED DRAFT REPORT IN NO WAY CONSTITUTES AN
               ENDORSEMENT OR A RECOMMENDATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021705          NUMBER: 100025A         DATE: 12/00/86E         PAGES: 297
TITLE/SUBJECT: "DRAFT FEASIBILITY STUDY REPORT - MILL CREEK, MONTANA -
               REMEDIAL INVESTIGATION/FEASIBILITY STUDY" (REVISION 2)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705          NUMBER: 100026          DATE: 12/01/86          PAGES: 153
TITLE/SUBJECT: "COMMENTS ON ENDANGERMENT ASSESSMENT:  MILL CREEK, MONTANA
               ANACONDA SMELTER SITE"--ANACONDA STRONGLY DISAGREES WITH
               THE EA FINDINGS THAT HEALTH RISKS RESULTING FROM EXPOSURE TO
               As,Cd,& Pb PRESENT A SUBSTANTIAL ENDANGERMENT TO THE RESI-
               DENTS OF MILL CREEK. (ALSO DRAFT (PE) IN ATTACHMENT 2)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705         NUMBER: 100026A       DATE: 02/04/87        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF FIVE COPIES OF ATTACHMENT 3 (NOT ATTACHED)
               OF ANACONDA'S COMMENTS TO THE MILL CREEK RI/FS WHICH EPA
               PRESENTED TO THE PUBLIC ON DECEMBER 23, 1986.
       AUTHOR: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705         NUMBER: 100026B       DATE: 12/23/86        PAGES: 1
TITLE/SUBJECT: ERRATA TO "COMMENTS ON ENDANGERMENT ASSESSMENT:  MILL CREEK,
               MONTANA, ANACONDA SMELTER SITE"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021705         NUMBER: 100027        DATE: 12/16/86E       PAGES: 11
TITLE/SUBJECT: EXPRESSING CONCERNS THAT HAVE NOT BEEN ADEQUATELY ADDRESSED
               IN AMC'S RESPONSES IN THE REVISED DRAFT RI/FS OR THAT HAVE
               RISEN AS A RESULT OF CHANGES THAT HAVE BEEN MADE IN THE
               RI/FS BY AMC.  EPA'S REQUESTED CHANGES WERE GENERALLY MADE
               IN THE TEXT, BUT THERE ARE PROBLEMS WITH CONSISTENCY.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705         NUMBER: 100028        DATE: 12/19/86        PAGES: 2
TITLE/SUBJECT: REGARDING ANACONDA MINERALS COMPANY'S BASIS FOR DISAGREEMENT
               WITH THE CLEMENT ENDANGERMENT ASSESSMENT FINDINGS THAT
               HEALTH RISKS RESULTING FROM EXPOSURE TO ARSENIC, CADMIUM,
               AND LEAD PRESENT A SUBSTANTIAL ENDANGERMENT TO THE
               RESIDENTS OF MILL CREEK.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705         NUMBER: 100029        DATE: 12/19/86E       PAGES: 1
TITLE/SUBJECT: "ANACONDA STATEMENT REGARDING THE MILL CREEK ENDANGERMENT
               ASSESSMENT"--INDICATES ANACONDA'S RESULTS OF THEIR REVIEW OF
               THE ENDANGERMENT ASSESSMENT FOR MILL CREEK, MONTANA BY
               ICF-CLEMENT, AND RAISES SERIOUS QUESTIONS AS TO THE VALIDITY
               OF THE ASSESSMENT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021705         NUMBER: 100030        DATE: 12/31/86        PAGES: 3
TITLE/SUBJECT: RESPONSE TO EPA'S LETTER OF DECEMBER 16,1986 WHICH REQUESTED
               A LETTER EXPLAINING THE EXTENT TO WHICH ANACONDA MINERALS
               COMPANY RESPONDED TO THE EPA COMMENTS ON THE DRAFT RI/FS.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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ANACONDA SMELTER SITE
MILL CREEK, MONTANA OPERABLE UNIT
ADMINISTRATIVE RECORD INDEX

FILE: 2021705 NUMBER: 100030A DATE: 12/31/86 PAGES:
TITLE/SUBJECT: PROGRESS REPORT NO. 6 COVERING THE MONTH OF DECEMBER 1986.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100031 DATE: 01/12/87 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF EPA'S ADDENDUM TO THE MILL CREEK REMEDIAL INVESTIGATION/FEASIBILITY STUDY FOR CONSIDERATION DURING THE PUBLIC COMMENT PERIOD, AND ALSO COPIES OF REFERENCES FROM THE ENDANGERMENT ASSESSMENT WHICH WERE REQUESTED. (NEITHER ARE ATTACHED)
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100031A DATE: 01/15/87 PAGES:
TITLE/SUBJECT: EXTENDS THE PUBLIC COMMENT PERIOD FOR REVIEW OF THE DRAFT RI/FS FOR MILL CREEK UNTIL FEBRUARY 4, 1987. (YELLOW TISSUE COPY.)
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: KRABLIN, RICHARD
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100031B DATE: 01/30/87 PAGES:
TITLE/SUBJECT: TRANSMITS PRECAUTIONS TO BE FOLLOWED IN THE DEMOLITION OF 4 HOMES IN MILL CREEK DURING THE WEEK OF 2/2/87. NOTIFIES AMC THAT AN AUTHORIZED EPA REPRESENTATIVE FROM SYSTEC WILL BE ON SITE DURING THE DEMOLITION ACTIVITIES TO OBSERVE, TEST, AND DOCUMENT FUGITIVE DUST EMISSIONS. (YELLOW TISSUE COPY.)
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100031C DATE: 01/30/87 PAGES:
TITLE/SUBJECT: TRANSMITTAL OF PRECAUTIONS TO BE FOLLOWED IN THE DEMOLITION OF FOUR HOMES IN MILL CREEK DURING THE WEEK OF FEBRUARY 2, 1987. NOTIFIES ANACONDA MINERALS CO. THAT AN AUTHORIZED EPA REPRESENTATIVE WILL BE ON SITE DURING THE DEMOLITION ACTIVITIES TO OBSERVE, TEST, AND DOCUMENT FUGITIVE DUST EMISSIONS.
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100031D DATE: 00/00/00 PAGES: 3
TITLE/SUBJECT: ATTACHMENT I--DEMOLITION OF HOMES AND STRUCTURES IN MILL CREEK. ADDRESSES THE FOLLOWING TOPICS: CONTROL OF AIRBORNE PARTICULATES, DEFINITIONS, BUILDING DEMOLITION, ROADS AND WORK AREAS, TRANSPORT OF DEMOLITION DEBRIS, AND DISPOSAL OF DEMOLITION DEBRIS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021705 NUMBER: 100032 DATE: 02/04/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF FIVE COPIES OF ATTACHMENT 3 (NONE ATTACHED) OF ANACONDA'S COMMENTS TO THE MILL CREEK RI/FS WHICH EPA PRESENTED TO THE PUBLIC ON DECEMBER 23, 1986.
AUTHOR: DOLE, STEPHEN E.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100033 DATE: 02/04/87 PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF FIVE SETS OF ANACONDA MINERALS COMPANY COMMENTS ON THE DRAFT RI/FS WHICH EPA PRESENTED TO THE PUBLIC ON DECEMBER 23, 1986. DOCUMENT ALSO DISCUSSES DISAGREEMENT WITH LEVEL OF RISK IN ENDANGERMENT ASSESSMENT.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100033A DATE: 02/03/87 PAGES: 83
TITLE/SUBJECT: REPORT ENTITLED: ANACONDA MINERALS COMPANY COMMENTS ON MILL CREEK DRAFT RI/FS, CERCLA DOCKET VIII 86-07.
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100034 DATE: 02/04/87 PAGES: 40
TITLE/SUBJECT: "ATTACHMENT 3 - SUPPLEMENTAL LEGAL CONCERNS"--CONTENTS: GENERAL COMMENTS CONCERNING THE MILL CREEK, MONTANA DRAFT FEASIBILITY STUDY AND COMMENTS CONCERNING WHETHER STATE STANDARDS, REQUIREMENTS, CRITERIA, OR LIMITATIONS ARE PROPER ARAR'S.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100034A DATE: 02/11/87 PAGES:
TITLE/SUBJECT: PROGRESS REPORT NO. 7 ON MILL CREEK, COVERING THE MONTH OF JANUARY 1987.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034B DATE: 02/24/87 PAGES:
TITLE/SUBJECT: CERTIFIED LETTER CONFIRMING ANACONDA MINERALS COMPANY'S ACQUISITION OF A HOME IN MILL CREEK WHICH SHOULD BE RELOCATED RATHER THAN DEMOLISHED. REQUESTS EPA RECOMMEND PRECAUTIONS TO BE FOLLOWED IN SUCH A CASE.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034C DATE: 03/02/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A MEMORANDUM FROM DIANE SHORT, CCJM/DENVER, WHICH SUMMARIZES EPA'S RECENT REQUEST FOR MODIFICATIONS TO THE DATA BASE FOR THE ANACONDA SMELTER. ENDORSES THE REQUESTED MODIFICATIONS. (TWO YELLOW TISSUE COPIES.)
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034D DATE: 02/18/87 PAGES: 5
TITLE/SUBJECT: DISCUSSES PROPOSED BATCH TABLE PORTION OF THE ANACONDA DATA BASE. INCLUDES: MANNERS IN WHICH THE BATCH TABLE WILL ADD TO THE UTILITY OF THE DATA BASE, DEFINITIONS OF QUALIFIERS USED BY THE DATA REVIEWER, AND AN EXAMPLE OF A BATCH FILE.
AUTHOR: SHORT, DIANE
ORGANIZATION: CCJM
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021705 NUMBER: 100034E DATE: 03/12/87 PAGES: 1
TITLE/SUBJECT: ADVISES THAT ANACONDA MINERALS COMPANY DECLINES TO MAKE SUGGESTED CHANGES TO THE DATA MANAGEMENT SYSTEM FOR THE ANACONDA SMELTER, AND DISCUSSES RATIONALE FOR THIS DECISION. THIS LETTER IS IN RESPONSE TO M. BISHOP'S LETTER DATED MARCH 2, 1987.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034F DATE: 03/31/87 PAGES: 3
TITLE/SUBJECT: RECOMMENDS PRECAUTIONS TO BE FOLLOWED BY ANACONDA MINERALS COMPANY WHEN RELOCATING A HOME FROM MILL CREEK. ENCOURAGES THE COLLECTION OF SAMPLES FROM A HOME AFTER CLEANING, BUT BEFORE RELOCATION, TO DOCUMENT THE LEVEL OF CONTAMINATION. (YELLOW TISSUE COPY.)
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034G DATE: 03/31/87 PAGES: 1
TITLE/SUBJECT: RECOMMENDS PRECAUTIONS TO BE FOLLOWED BY ANACONDA MINERALS COMPANY WHEN RELOCATING A HOME FROM MILL CREEK. ENCOURAGES THE COLLECTION OF SAMPLES FROM A HOME AFTER CLEANING, BUT BEFORE RELOCATION, TO DOCUMENT THE LEVEL OF CONTAMINATION. (FIRST PAGE OF YELLOW TISSUE COPY; BODY SLASHED THROUGH.)
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034H DATE: 03/31/87 PAGES:
TITLE/SUBJECT: RECOMMENDS PRECAUTIONS TO BE FOLLOWED BY ANACONDA MINERALS COMPANY WHEN RELOCATING A HOME FROM MILL CREEK. ENCOURAGES THE COLLECTION OF SAMPLES FROM A HOME AFTER CLEANING, BUT BEFORE RELOCATION, TO DOCUMENT THE LEVEL OF CONTAMINATION.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034I DATE: 08/10/87 PAGES: 1
TITLE/SUBJECT: REQUESTS REFERENCES FROM ANACONDA MINERALS CO. THAT WERE NOT AVAILABLE TO EPA BUT WERE CITED IN AMC REPORTS AND ARE AVAILABLE IN A PROJECT SPECIFIC LIBRARY. THESE DOCUMENTS HAVE BEEN FLAGGED IN ATTACHMENT 1 WITH AN "*". (ATTACHMENT NOT INCLUDED)
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100034J DATE: 00/00/00 PAGES: 22
TITLE/SUBJECT: COMPLETE REFERENCE LIST-- THOSE REQUESTED BY MIKE BISHOP'S LETTER (AUGUST 10, 1987) ARE HIGHLIGHTED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES

FILE: 2021705 NUMBER: 100034K DATE: 00/00/00 PAGES:
TITLE/SUBJECT: PANAFAX REQUEST
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021705 NUMBER: 100035 DATE: 08/27/87 PAGES: 8
TITLE/SUBJECT: TRANSMITTAL OF EPA COMMENTS ON THE DRAFT RI/FS FOR MILL CREEK, MONTANA AND ATTACHMENTS 1 THROUGH 4: DATA USABILITY RESULTS, SPECIAL REPORT ON INGESTED INORGANIC ARSENIC, EVALUATION AND IDENTIFICATION OF ARARS, AND EXPLANATIONS ON HISTORIC PRESERVATION REGULATIONS.
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021705 NUMBER: 100036 DATE: 09/02/87 PAGES: 3
TITLE/SUBJECT: RESPONDING TO QUESTIONS IN REGARD TO THE MOVEMENT OF MATERIALS OFF SITE FROM MILL CREEK FOR SALVAGE. EPA RECOMMENDS THAT AMC COMPLY WITH ONE OF THREE OPTIONS LISTED.
AUTHOR: COLEMAN, CHARLES
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

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FILE: 2021705          NUMBER: 100037         DATE: 09/03/87         PAGES: 6
TITLE/SUBJECT: CONFIRMING VERBAL COMMUNICATION THAT ANACONDA MINERALS
               COMPANY WILL BE UNABLE TO DELIVER THE FINAL DRAFT RI/FS IN
               THE 21 DAY PERIOD REQUIRED BY THE ADMINISTRATIVE ORDER ON
               CONSENT DUE TO THE THREE LISTED REASONS.  CURRENT ESTIMATE
               OF DELIVERY IS 35 DAYS OR OCTOBER 1, 1987.
        AUTHOR: DAVIS, JACK R.
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100038         DATE: 09/04/87         PAGES: 2
TITLE/SUBJECT: RESPONSE TO THE SEPTEMBER 3, 1987 LETTER REQUESTING AN
               EXTENSION FOR THE COMPLETION OF THE MILL CREEK RI/FS.
               EPA IS WILLING TO GRANT A ONE WEEK EXTENSION; WITH THIS
               EXTENSION, THE RI/FS IS DUE ON THURSDAY SEPTEMBER 24, 1987.
               (YELLOW TISSUE COPY WITH CONCURRENCE IS ATTACHED)
        AUTHOR: WARDELL, JOHN
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
     ADDRESSEE: DAVIS, JACK R.
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100039         DATE: 09/10/87         PAGES: 16
TITLE/SUBJECT: TRANSMITTAL OF MCVEHIL-MONNETT ASSOCIATES, INC. COMMENTS AND
               WRITTEN MATERIALS IN RESPONSE TO THE EPA'S COMMENTS ON THE
               MILL CREEK RI/FS REGARDING RECONTAMINATION POTENTIAL.  THE
               AUTHOR REQUESTS ADVICE ON HOW TO PROCEED.
        AUTHOR: DAVIS, JACK R.
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100040         DATE: 09/10/87         PAGES: 1
TITLE/SUBJECT: RESPONSE TO LETTER OF SEPTEMBER 4 RE-REQUESTING REFERENCE
               MATERIALS.  TETRA TECH AND DAMES & MOORE WILL RENEW THEIR
               EFFORTS AND WILL TRANSMIT THE DOCUMENTS DIRECTLY TO MIKE
               BISHOP; IF THE DOCUMENTATION DOES NOT EXIST, THESE WILL
               BE SO NOTED.
        AUTHOR: DAVIS, JACK R.
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100041         DATE: 09/14/87         PAGES: 3
TITLE/SUBJECT: INDICATING THAT ANACONDA MINERALS COMPANY IS UNABLE TO
               COMPLETE THE PREPARATION OF THE FINAL RI/FS IN THE 28 DAYS
               CURRENTLY APPROVED BY EPA, AND THEY REITERATE A REQUEST FOR
               AN EXTENSION TO 35 CALENDAR DAYS DUE REASONS LISTED.
        AUTHOR: DAVIS, JACK R.
  ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100042          DATE: 09/22/87          PAGES: 2
TITLE/SUBJECT: REGARDING CONCERNS OVER THE DRAFT MILL CREEK PARTIAL CONSENT
               DECREE SENT BY MR. SCHERER TO R. WYCOFF ON 9/4/87. "MR.
               WYCOFF RECIEVED THE TRANSMITTAL LETTER ON 9/9/87 AND ARCO
               ACKNOWLEDGES THE INITIATION OF NEGOTIATION UNDER SECTION
               122(e) OF CERCLA AS AMENDED"
       AUTHOR: KRABLIN, RICHARD
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100043          DATE: 09/28/87          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF TWO COPIES OF THE FINAL RI/FS FOR MILL CREEK,
               MONTANA COMPLETED IN ACCORDANCE WITH THE ADMINISTRATIVE
               ORDER ON CONSENT.  THE LETTER ALSO STATES THAT AMC DOES NOT
               WITH EVERYTHING CONTAINED IN THE DOCUMENTS, AND ADDRESSES
               CONCERNS ABOUT THE RI/FS PROCESS.
       AUTHOR: DESAUTELS, JEFFREY H.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: CALLAWAY, REX
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100044          DATE: 09/29/87          PAGES: 2
TITLE/SUBJECT: RESPONDING TO THE LETTER OF 9/28/87 REGARDING GENERAL
               OBJECTIONS OF ARCO TO THE MILL CREEK, MONTANA RI/FS.
       AUTHOR: CALLAWAY, REX
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
    ADDRESSEE: DESAUTELS, JEFFREY H.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100045          DATE: 09/00/87          PAGES: 316
TITLE/SUBJECT: "FINAL REMEDIAL INVESTIGATION REPORT, MILL CREEK, MONTANA
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT"
               (RECEIVED FROM AMC ON 9/28/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705          NUMBER: 100046          DATE: 09/28/87          PAGES: 225
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA,
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT
               VOLUME I" (RECEIVED FROM AMC ON 9/28/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705          NUMBER: 100047          DATE: 09/00/87          PAGES: 199
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA,
               ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT,
               VOLUME II - APPENDICES" (RECEIVED FROM AMC ON 9/28/87)
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021705 NUMBER: 100048 DATE: 09/00/87 PAGES: 316
TITLE/SUBJECT: "FINAL REMEDIAL INVESTIGATION REPORT MILL CREEK, MONTANA ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT" (RECEIVED FROM AMC ON 9/28/87. CONTAINS EPA HANDWRITTEN REVISIONS/COMMENTS)
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100049 DATE: 09/28/87 PAGES: 225
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT, VOLUME I" (RECEIVED FROM AMC ON 9/28/87. CONTAINS EPA HANDWRITTEN REVISIONS/COMMENTS)
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021705 NUMBER: 100050 DATE: 09/00/87 PAGES: 199
TITLE/SUBJECT: "FINAL FEASIBILITY STUDY REPORT MILL CREEK, MONTANA ANACONDA SMELTER SUPERFUND SITE, FIRST OPERABLE UNIT, VOLUME II - APPENDICES" (RECEIVED FROM AMC ON 9/28/87. CONTAINS EPA HANDWRITTEN REVISIONS/COMMENTS)
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021706 NUMBER: 100001 DATE: 10/23/84 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE FINAL CERCLA ADMINISTRATIVE ORDER FOR THE ANACONDA SMELTER SITE WHICH TOOK EFFECT 10/22/84.
AUTHOR: CALLAWAY, REX
ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
ADDRESSEE: HALLER, PETER H.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021706 NUMBER: 100002 DATE: 10/23/84 PAGES: 1
TITLE/SUBJECT: CERTIFICATE OF SERVICE FOR THE ATTACHED ADMINISTRATIVE ORDER (DOCKET NO. CERCLA-VIII-84-08) THE ORIGINAL WHICH WAS FILED WITH THE REGIONAL HEARING CLERK, EPA REGION VIII AND A COPY MAILED TO PETER HALLER, ANACONDA MINERAL CO.
AUTHOR: CALLAWAY, REX
ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
ADDRESSEE: HALLER, PETER H.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021706 NUMBER: 100003 DATE: 10/18/84E PAGES: 37
TITLE/SUBJECT: ADMINISTRATIVE ORDER ON CONSENT IN THE MATTER OF ATLANTIC RICHFIELD COMPANY. ISSUED ON OCTOBER 22, 1984
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT

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FILE: 2021706          NUMBER: 100004          DATE: 10/01/84        PAGES: 19-
TITLE/SUBJECT: REPORT ENTITLED: FINAL WORK PLAN FOR ANACONDA SMELTER RI/FS
               (INTERNAL DOCUMENT NO. 77.8L18.0) ANACONDA, MONTANA
               (VOLUME 1: SCOPE AND SCHEDULE)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CH2M HILL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021706          NUMBER: 100005          DATE: 10/01/84        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF 20 COPIES OF THE FINAL WORK PLAN FOR REMEDIAL
               INVESTIGATION/FEASIBILITY STUDY FOR THE ANACONDA SMELTER.
               DOCUMENT ALSO STATES THAT THE FINAL WORK PLAN IS A REVISED
               VERSION OF THE AUGUST 21,1984 DRAFT AND INCORPORATES THE
               EPA COMMENTS
       AUTHOR: LOVELL, DOUGLAS W.
 ORGANIZATION: CH2M HILL
    ADDRESSEE: DUNN, JIM
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021706          NUMBER: 100006          DATE: 07/10/85        PAGES: 1
TITLE/SUBJECT: CERTIFICATE OF SERVICE FOR THE ATTACHED AMENDMENT TO
               ADMINISTRATIVE ORDER (DOCKET NO. CERCLA VIII-84-08) THE
               ORIGINAL AND ONE COPY OF WHICH WAS FILED BY THE REGIONAL
               HEARING CLERK, EPA REGION VIII AND A TRUE COPY MAILED TO
               PETER HALLER.
       AUTHOR: ORTEGA, EMILY E.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021706          NUMBER: 100007          DATE: 00/00/00        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A SIGNED COPY OF THE AMENDMENTS TO
               ADMINISTRATIVE ORDER ON CONSENT (DOCKET NO.
               CERCLA-VIII-84-08). THESE AMENDMENTS TOOK EFFECT ON 7/9/85.
       AUTHOR: CALLAWAY, REX
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
    ADDRESSEE: HALLER, PETER H.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021706          NUMBER: 100008          DATE: 07/09/85E       PAGES: 3
TITLE/SUBJECT: FIRST AMENDED ADMINISTRATIVE ORDER ON CONSENT
               (DOCKET NO. CERCLA-VIII-84-08) IN THE MATTER OF ATLANTIC
               RICHFIELD COMPANY. AMENDMENT WAS ISSUED 7/9/85.
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT
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FILE: 2021706          NUMBER: 100009          DATE: 00/00/00        PAGES: 10
TITLE/SUBJECT: COMPLIANCE SCHEDULE FOR THE MASTER INVESTIGATION/
               STUDY AS NOTED IN THE FIRST AMENDED ADMINISTRATIVE ORDER
               ON CONSENT WHICH WAS ISSUED JULY,9 1985.
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT
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FILE: 2021706        NUMBER: 100010         DATE: 12/20/85E       PAGES: 38
TITLE/SUBJECT: ADMINISTRATIVE ORDER ON CONSENT - (DOCKET NO. CERCLA -
               VIII-85-09) IN THE MATTER OF ATLANTIC RICHFIELD COMPANY
               INITIAL REMEDIAL MEASURES. ORDER WAS ISSUED ON 12/20/85.
               INCLUDES CERTIFICATE OF SERVICE.
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT
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FILE: 2021706        NUMBER: 100011         DATE: 06/09/86E       PAGES: 21
TITLE/SUBJECT: ADMINISTRATIVE ORDER ON CONSENT IN THE MATTER OF ATLANTIC
               RICHFIELD COMPANY REMOVAL ACTION.(DOCKET NO. CERCLA-VIII-86-
               06).ORDER WAS ISSUED ON 6/9/86. (PAGES OUT OF ORDER)
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT
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FILE: 2021706        NUMBER: 100012         DATE: 06/11/86        PAGES: 1
TITLE/SUBJECT: CERTIFICATE OF SERVICE FOR THE ATTACHED ADMINISTRATIVE
               ORDER ON CONSENT (DOCKET NO. CERCLA-VIII-86-06). THE
               ORIGINAL AND ONE COPY WERE DELIVERED TO AND FILED BY THE
               REGIONAL HEARING CLERK AND A COPY SENT TO DR. RICHARD
               KRABLIN AND PETER HALLER ESQ.
       AUTHOR: ILLEGIBLE
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021706        NUMBER: 100013         DATE: 07/01/86E       PAGES: 29
TITLE/SUBJECT: ADMINISTRATIVE ORDER ON CONSENT(DOCKET NO.CERCLA-VIII-86-07)
               IN THE MATTER OF ATLANTIC RICHFIELD COMPANY, MILL CREEK,
               MONTANA, RI/FS. THE ORDER WAS ISSUED ON 7/1/86
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT
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FILE: 2021706        NUMBER: 100014         DATE: 07/02/86        PAGES: 1
TITLE/SUBJECT: CERTIFICATE OF SERVICE BY HAND DELIVERY FOR THE ADMIN-
               ISTRATIVE ORDER ON CONSENT (DOCKET NO. CERCLA-VIII-86-07)
               THE ORIGINAL AND ONE COPY WERE DELIVERED TO AND FILED
               BY THE REGIONAL HEARING CLERK, EPA REGION VIII AND THAT
               A SIGNED COPY WAS DELIVERED TO AMC.
       AUTHOR: BAME, CAROLYN J.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021706        NUMBER: 100015         DATE: 06/19/86        PAGES: 56
TITLE/SUBJECT: REPORT ENTITLED: WORK PLAN FOR MILL CREEK SITE MONTANA
               (WITH HANDWRITTEN MARGINALIA "FINAL" ON COVER SHEET)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707          NUMBER: 100001          DATE: 03/00/85E          PAGES: 13
TITLE/SUBJECT: "REPORT ON THE MARCH 1985 ANACONDA, MONTANA URINARY ARSENIC
               SURVEY"
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707          NUMBER: 100001A         DATE: 11/13/84           PAGES: 16
TITLE/SUBJECT: "PRELIMINARY WORK PLAN - AN EPIDEMIOLOGIC EVALUATION OF
               LUNG AND SKIN CANCER INCIDENCE IN COMMUNITIES NEAR THE
               ANACONDA SMELTER"
       AUTHOR: NOT INDICATED
 ORGANIZATION: ENVIRONMENTAL HEALTH ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707          NUMBER: 100001B         DATE: 11/13/84           PAGES: 17
TITLE/SUBJECT: "PRELIMINARY WORK PLAN - HEAVY METAL ABSORPTION IN CHILDREN
               LIVING NEAR THE ANACONDA SMELTER"
       AUTHOR: NOT INDICATED
 ORGANIZATION: ENVIRONMENTAL HEALTH ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707          NUMBER: 100001C         DATE: 11/19/84E          PAGES: 46
TITLE/SUBJECT: "ENVIRONMENTAL HEALTH ASSOCIATES, INC., QUALIFICATIONS AND
               CAPABILITIES", INCLUDES RESUMES OF EHA EMPLOYEES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ENVIRONMENTAL HEALTH ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707          NUMBER: 100001D         DATE: 11/28/84           PAGES: 1
TITLE/SUBJECT: A REQUEST THAT THE ENVIRONMENTAL PROTECTION AGENCY ASSISTS
               IN SELECTING TWO MEMBERS OF THE SCIENTIFIC PEER REVIEW
               COMMITTEE FROM EPA AND CDC PERSONNEL.
       AUTHOR: TILMAN, RAY
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021707          NUMBER: 100001E         DATE: 03/14/85E          PAGES: 6
TITLE/SUBJECT: TRANSMITTAL OF COMMENTS PROVIDED BY SUZANNE BINDER, M.D.,
               WENDY KAYE, Ph.D, AND RICK WAXWEILLER, Ph.D FROM CDC
               ON THE PROPOSED WORK PLAN BY ENVIRONMENTAL HEALTH ASSOCIATES
               TITLED " AN EPIDEMIOLOGIC EVALUATION OF LUNG AND SKIN CANCER
               INCIDENCE IN COMMUNITIES NEAR THE ANACONDA SMELTER."
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: TILMAN, RAY
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021707        NUMBER: 100001F        DATE: 02/26/85        PAGES: 4
TITLE/SUBJECT: COMMENTS PROVIDED BY GEORGI A. JONES FROM CDC ON
               THE PROPOSED WORK PLAN BY ENVIRONMENTAL HEALTH ASSOCIATES
               ENTITLED "AN EPIDEMIOLOGIC EVALUATION OF LUNG AND SKIN
               CANCER INCIDENCE IN COMMUNITIES NEAR THE ANACONDA SMELTER".
       AUTHOR: JONES, GEORGI A.
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: SKOWRONSKI, EDWARD J.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021707        NUMBER: 100001G        DATE: 03/01/83        PAGES: 6
TITLE/SUBJECT: COMMENTS ON SUBMITTED DATA ON THE ANACONDA SMELTER WASTE
               SITE, ANACONDA, MONTANA, WHICH WAS REVIEWED BY A COMMITTEE
               OF THE CENTER FOR ENVIRONMENTAL HEALTH (CDC).
       AUTHOR: JONES, GEORGI A.
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: SKOWRONSKI, EDWARD J.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021707        NUMBER: 100002         DATE: 05/06/85        PAGES: 2
TITLE/SUBJECT: TRANSMITTAL AND RESULTS OF THE URINARY ARSENIC ANALYSES. THE
               PEOPLE FROM WHOM THE SAMPLES WERE OBTAINED WERE NOT PART OF
               THE URINARY ARSENIC SURVEY OF PRESCHOOL CHILDREN AND NONE OF
               THE VALUES WERE ELEVATED.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021707        NUMBER: 100003         DATE: 07/00/85        PAGES: 23
TITLE/SUBJECT: "ANACONDA, MONTANA JULY 1985 ARSENIC STUDY"
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021707        NUMBER: 100004         DATE: 03/04/86        PAGES: 3
TITLE/SUBJECT: "ADDENDUM TO THE JULY URINARY ARSENIC SURVEY: MILL CREEK
               FOLLOWUP." DISCUSSION OF THE ENCLOSED DATA INDICATING THAT
               MILL CREEK CHILDERN CONTINUED TO BE EXPOSED TO ENVIRONMENTAL
               ARSENIC IN SUMMER AND AUTUMN, 1985.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: MARGOLIS, STEPHEN (Ph.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
DOCUMENT TYPE: MEMO
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FILE: 2021707        NUMBER: 100005         DATE: 03/10/86        PAGES: 1
TITLE/SUBJECT: DISCUSSION OF A REQUEST FROM THE ENVIRONMENTAL ADVISORY
               COUNCIL TO EPA THAT URINARY ARSENIC TESTING BE OFFERED TO
               ALL MILL CREEK RESIDENTS AND THAT A HEALTH STUDY BE CONDUCT-
               ED. DOCUMENT EXPRESSESS OPPOSITION TO WIDESPREAD TESTING
               IN MILL CREEK FOR VARIOUS REASONS.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
    ADDRESSEE: BUYNOWSKI, GEORGE
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021707          NUMBER: 100006          DATE: 03/18/86        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE RESPONSE OF THE CENTER FOR DISEASE
               CONTROL TO THE REQUEST BY THE ENVIRONMENTAL ADVISORY COUNCIL
               OF ANACONDA-DEER LODGE COUNTY FOR A "HUMAN HEALTH STUDY"
               DOCUMENT ALSO STATES THAT CDC HAS DECLINED TO CONDUCT THE
               STUDY DUE TO SMALL POPULATION SIZE AND PAST EXPOSURE
        AUTHOR: MCGEEHIN, MICHAEL
  ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
     ADDRESSEE: DUPREY, ROBERT L.
  ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021707          NUMBER: 100006A         DATE: 04/07/86        PAGES: 11
TITLE/SUBJECT: REGARDING CORRELATION BETWEEN ENVIRONMENTAL SAMPLING RESULTS
               (E&E, 5/85) AND URINARY ARSENIC VALUES (CDC, 3/85),
               ANACONDA, MONTANA.
        AUTHOR: BINDER, SUE (M.D.)
  ORGANIZATION: CENTERS FOR DISEASE CONTROL (CDC)
     ADDRESSEE: FALK, HENRY (M.D.)
  ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021707          NUMBER: 100006B         DATE: 09/03/86        PAGES: 1
TITLE/SUBJECT: COMMENTS ON THE DRAFT OF THE MILL CREEK REMEDIAL
               INVESTIGATION REPORT, SPECIFICALLY THE DATA ON
               EXPOSURE ASSUMPTIONS.
        AUTHOR: MCGEEHIN, MICHAEL
  ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021707          NUMBER: 100007          DATE: 02/05/87        PAGES: 16
TITLE/SUBJECT: "HEALTH ASSESSMENT MILL CREEK, MONTANA, ANACONDA SMELTER
               SITE (SI-87-049)."
        AUTHOR: HUTCHINSON, LESLIE J. (M.D.)
  ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
     ADDRESSEE: MCGEEHIN, MICHAEL
  ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
DOCUMENT TYPE: MEMO
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FILE: 2021707          NUMBER: 100008          DATE: 04/09/87        PAGES: 3
TITLE/SUBJECT: TRANSMITTAL AND MEMO FROM DR. BINDER CONCERNING THE PRE-
               AND POST MOVE URINARY ARSENIC LEVELS FOR CITIZENS OF MILL
               CREEK.
        AUTHOR: McGEEHIN, MICHAEL
  ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
     ADDRESSEE: BISHOP, MIKE
  ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO
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FILE: 2021708          NUMBER: 100001          DATE: 10/12/84        PAGES: 48
TITLE/SUBJECT: FINAL PRELIMINARY ENDANGERMENT ASSESSMENT FOR ANACONDA
               SMELTER RI/FS ANACONDA,MONTANA (INTERNAL DOCUMENT # 77.8L18)
        AUTHOR: NOT INDICATED
  ORGANIZATION: CH2M HILL
     ADDRESSEE: HALVORSON, MARIE
  ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021708         NUMBER: 100002         DATE: 10/12/84         PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THREE COPIES OF THE FINAL PRELIMINARY
               ENDANGERMENT ASSESSMENT (PEA) FOR THE ANACONDA SMELTER SITE.
               DOCUMENT STATES THAT THE FINAL PEA IS A REVISED VERSION OF
               OCTOBER 5,1984 DRAFT PEA, AND THAT IT INCORPORATES EPA
               COMMENTS RELAYED ON OCTOBER 11, 1984.
       AUTHOR: LOVELL, DOUGLAS W.
 ORGANIZATION: CH2M HILL
    ADDRESSEE: DUNN, JIM
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021708         NUMBER: 100002A        DATE: 02/03/86         PAGES: 5
TITLE/SUBJECT: COMMENTS ON THE CLEMENT'S ENDANGERMENT ASSESSMENT FOR MILL
               CREEK, MONTANA WHICH THE AUTHOR BELIEVES PRESENTS A
               REASONABLE CHARACTERIZATION OF THE RISK IN MILL CREEK, BUT
               DOCUMENT COULD HAVE BENEFITED FROM SOME ADDITIONAL
               INFORMATION.
       AUTHOR: WHITE, PAUL
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021708         NUMBER: 100003         DATE: 04/23/86         PAGES: 131
TITLE/SUBJECT: REPORT ENTITLED: ENDANGERMENT ASSESSMENT: MILL CREEK, MON-
               TANA ANACONDA SMELTER SITE - REVISED FINAL REPORT (INTERNAL
               DOCUMENT NO. 228-WP1-EP-CKHU-1)
       AUTHOR: NOT INDICATED
 ORGANIZATION: CLEMENT & ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021708         NUMBER: 100004         DATE: 10/30/86         PAGES: 148
TITLE/SUBJECT: "SPECIAL REPORT ON INGESTED INORGANIC ARSENIC AND CERTAIN
               HUMAN HEALTH EFFECTS" (EXTERNAL REVIEW DRAFT)
               CONTAINS APPENDICES A THROUGH D.
       AUTHOR: LEVINE, TINA
 ORGANIZATION: USEPA, OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA HEADQUARTERS
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021709         NUMBER: 100001         DATE: 00/00/86E        PAGES: 2
TITLE/SUBJECT: A PETITION BY THE RESIDENTS OF MILL CREEK RESIDENTIAL AREA
               OPPOSING ANY PROCESSING OF FLUE DUST AT THE FORMER SITE OF
               THE ANACONDA COMPANY SMELTER.
       AUTHOR: ARRIGO, JOHN
 ORGANIZATION: CITIZEN(S) OF MILL CREEK, MONTANA
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021709         NUMBER: 100002         DATE: 01/07/86         PAGES: 1
TITLE/SUBJECT: EXPRESSING THE CONCERNS OF A RESIDENT ABOUT FLUE DUST WHICH
               BLOWS FROM THE VAULT ON A REGULAR BASIS AND THE POTENTIAL
               METHODS OF CONTROLLING THE DUST.
       AUTHOR: NOLL, KENNETH
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100003          DATE: 01/08/86E          PAGES: 1
TITLE/SUBJECT: REGARDING A RESIDENT'S CONCERN ABOUT THE FLUE DUST ON THE
               SMELTER HILL AND HIS FEELINGS THAT THE PITS SHOULD NOT BE
               OPENED.
       AUTHOR: NOLL, EDGAR
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100004          DATE: 01/06/86           PAGES: 1
TITLE/SUBJECT: COMMENTS ON ADMINISTRATIVE ORDER CERCLA VIII-85-09 REGARDING
               THE MOVING OF ANACONDA SMELTER SITE FLUE DUST, AND NOTES
               INDICATING THAT THERE WAS NO MOVEMENT DURING THE PERIOD OF
               3/1 THROUGH 9/31 FOR ANY YEAR.
       AUTHOR: PETERSON, PAUL
 ORGANIZATION: ARROWHEAD APIARIES
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100005          DATE: 01/09/86           PAGES: 1
TITLE/SUBJECT: REGARDING THE ADMINISTRATIVE ORDER ON CONSENT, DOCKET NO.
               CERCLA-VII-85-09 AND THE CONCERN ABOUT THE 20% OPACITY
               STANDARD FOR VISIBLE EMISSIONS OF FLUE DUST.  NOTES
               ENVIRONMENTAL AND ECONOMIC BENEFITS IF THE FLUE DUST WAS
               RENDERED LESS-TOXIC OR NON-TOXIC.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100006          DATE: 01/06/86           PAGES: 1
TITLE/SUBJECT: COMMENTS ON ADMINISTRATIVE ORDER CERCLA-VIII-85-09 WHICH
               REGARDS THE MOVING OF ANACONDA SMELTER SITE FLUE DUST AND
               NOTES THAT THERE WAS NO MOVEMENT DURING THE PERIOD OF 3/1
               THROUGH 9/31 FOR ANY YEAR.
       AUTHOR: PETERSON, PAUL
 ORGANIZATION: ARROWHEAD APIARIES
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
-----------------------------------------------------------------------------

FILE: 2021709          NUMBER: 100007          DATE: 01/07/86           PAGES: 1
TITLE/SUBJECT: EXPRESSING THE CONCERNS OF A RESIDENT ABOUT THE FLUE DUST
               WHICH BLOWS FROM THE VAULT ON A REGULAR BASIS AND THE
               POTENTIAL METHODS FOR CONTROLLING THE DUST.
       AUTHOR: NOLL, KENNETH
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
-----------------------------------------------------------------------------

FILE: 2021709          NUMBER: 100008          DATE: 01/08/86E          PAGES: 1
TITLE/SUBJECT: REGARDING THE CONCERNS OF A RESIDENT ABOUT THE FLUE DUST
               ON THE SMELTER HILL AND HIS FEELINGS THAT THE PITS SHOULD
               NOT BE OPENED.
       AUTHOR: NOLL, EDGAR
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709 NUMBER: 100009 DATE: 01/09/86 PAGES: 1
TITLE/SUBJECT: REGARDING ADMINISTRATIVE ORDER ON CONSENT, DOCKET NO. CERCLA-VIII-85-09 AND THE CONCERN ABOUT THE 20% OPACITY STANDARD FOR CISIBLE EMISSIONS OF FLUE DUST. NOTES ENVIRONMENTAL AND ECONOMIC BENEFITS IF THE FLUE DUST WAS RENDERED LESS-TOXIC OR NON-TOXIC.
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100010 DATE: 01/20/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A NOTICE FOR AN ENVIRONMENTAL ADVISORY COUNCIL MEETING FOR TUESDAY, JANUARY 28 1986 AT 8PM. NOTES THAT MR. BISHOP'S ATTENDANCE IS NOT REQUIRED. (NOTICE IS NOT ATTACHED)
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100011 DATE: 01/28/86 PAGES: 4
TITLE/SUBJECT: RESPONSE TO GOVERNOR SCHWINDEN'S LETTER WHICH ASKED QUESTIONS PERTAINING TO MILL CREEK, MONTANA. AN ATTEMPT TO PROVIDE COMPLETE ANSWERS TO THESE QUESTIONS HAS BEEN MADE.
AUTHOR: WELLES, JOHN G.
ORGANIZATION: USEPA-VIII
ADDRESSEE: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100012 DATE: 02/05/86 PAGES: 2
TITLE/SUBJECT: A REQUEST FROM THE ENVIRONMENTAL ADVISORY COUNCIL OF ANACONDA-DEER LODGE COUNTY FOR THE FOLLOWING INFORMATION REGARDING THE MILL CREEK CLEANUP: A WRITTEN PLAN OF ACTION INCLUDING GEOGRAPHIC LIMITS OF THE CLEANUP, A FOLLOWUP MONITORING PLAN AND A HUMAN HEALTH STUDY.
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100013 DATE: 02/07/86 PAGES: 1
TITLE/SUBJECT: REGARDS THE COMPARISON OF A SHORT-TERM SOLUTION TO ROAD DUST BY OILING ROADS, TO A LONG-TERM SOLUTION DEVELOPED BY EPA. MR. BIFOSS REQUESTS A RESPONSE FROM MR. BISHOP.
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100014 DATE: 04/04/86 PAGES: 3
TITLE/SUBJECT: NOTES ADDITIONAL CONCERNS BROUGHT UP BY A LETTER OF MARCH 26, 1986 AND THE ENVIRONMENTAL ADVISORY COUNCIL MEETING OF MARCH 27, 1986. THE CONCERNS ARE THE DELAY IN THE PREPARATION OF THE ENDANGERMENT ASSESSMENT, AND THE TWO REMEDIAL ALTERNATIVES.
AUTHOR: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER

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FILE: 2021709          NUMBER: 100015          DATE: 04/21/86          PAGES: 1
TITLE/SUBJECT: CONCERNS THE SCHEDULE OF THE MAY MEETING OF THE ANACONDA-
               DEER LODGE COUNTY ENVIRONMENTAL ADVISORY COUNCIL TO COINCIDE
               WITH THE EPA'S DECISION ON THE REMOVAL ACTION RESPONSE FOR
               MILL CREEK.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100017          DATE: 05/28/86          PAGES: 3
TITLE/SUBJECT: A LIST OF DEMANDS SET FORTH BY THE MILL CREFK RESIDENTS
               ASSOCIATION AT THEIR MEETING ON MAY 28, 1986.  DEMANDS
               CONCERN COMPENSATION FOR THOSE RESIDENTS THAT WANT TO MOVE,
               THOSE THAT WANT TO STAY, AND THOSE THAT ARE RENTING.  (A MAP
               OF THE LOCATIONS OF RESIDENTS' HOMES IS INCLUDED)
       AUTHOR: PATTERSON, PEG
 ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
    ADDRESSEE: ARRIGO, JOHN
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021709          NUMBER: 100018          DATE: 06/25/86          PAGES: 4
TITLE/SUBJECT: RESPONSE TO THE PETITION FROM THE MILL CREEK RESIDENTS
               ASSOCIATION WHICH STATED THE RESIDENTS DEMANDS REGARDING
               RELOCATION.  IT IS NOTED THAT A DECISION CANNOT BE MADE
               REGARDING THESE DEMANDS UNTIL THE RI/FS IS COMPLETED.  THE
               DEMANDS ARE ADDRESSED AS COMPLETELY AS POSSIBLE.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: PATTERSON, PEG
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100019          DATE: 07/11/86          PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF MEMORANDUMS THAT HAVE BEEN PROVIDED BY THE
               CENTERS FOR DISEASE CONTROL CONCERNING HEALTH/EPIDEMIOLOGIC
               STUDIES IN THE MILL CREEK AREA.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: PATTERSON, PEG
 ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100020          DATE: 03/10/86          PAGES: 1
TITLE/SUBJECT: STATES TWO REASONS WHY A HEALTH STUDY AND URINARY ARSENIC
               TESTING FOR MILL CREEK RESIDENTS WOULD NOT BE BENEFICIAL AT
               THIS TIME.  OFFERS ALTERNATIVE HEALTH STUDIES FOR THE
               RESIDENTS.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: BUYNOWSKI, GEORGE
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021709          NUMBER: 100021          DATE: 02/07/85          PAGES: 1
TITLE/SUBJECT: REVIEW OF "AN EPIDEMIOLOGIC EVALUATION OF LUNG AND SKIN
               CANCER INCIDENCE IN COMMUNITIES NEAR THE ANACONDA SMELTER,
               PRELIMINARY WORK PLAN."  COMMENTS OF RICK WAXWEILLER, Ph.D.
               AND WENDY KAY, Ph.D. ARE ATTACHED.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: MARGOLIS, STEPHEN (Ph.D.)
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021709          NUMBER: 100022          DATE: 02/04/85        PAGES: 4
TITLE/SUBJECT: REVIEW OF "AN EPIDEMIOLOGIC EVALUATION OF LUNG AND SKIN
               CANCER INCIDENCE IN COMMUNITIES NEAR THE ANACONDA SMELTER,
               PRELIMINARY WORK PLAN" BY ENVIRONMENTAL HEALTH ASSOCIATES,
               INC.
       AUTHOR: KAYE, WENDY E.
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: BINDER, SUE (M.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
DOCUMENT TYPE: MEMO
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FILE: 2021709          NUMBER: 100022A         DATE: 11/30/86        PAGES:
TITLE/SUBJECT: SUMMARY OF COMMUNITY CONCERNS.  COMMENTS ON DELAY IN THE
               RELEASE OF THE MILL CREEK REMEDIAL INVESTIGATION/FEASIBILITY
               STUDY, AND A SENSE OF FUTILITY AMONG COUNTY OFFICIALS AND
               RESIDENTS.
       AUTHOR: ASPHOLM, AUDREY
 ORGANIZATION: ANACONDA COMMUNITY RELATIONS
    ADDRESSEE: HINZEL, ERIC
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021709          NUMBER: 100023          DATE: 01/12/87        PAGES: 1
TITLE/SUBJECT: HANDWRITTEN LETTER STATING THAT WINNIE JOHNSON WOULD BE IN
               FAVOR OF SELLING TWO PARCELS OF LAND IN MILL CREEK.
       AUTHOR: JOHNSON, WINNIE
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: AUDREY
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100024          DATE: 01/12/87        PAGES: 1
TITLE/SUBJECT: A HANDWRITTEN VOTE TO SELL FROM LESLIE O. AND WINNIE A.
               JOHNSON.
       AUTHOR: JOHNSON, LESLIE O.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100025          DATE: 01/05/87        PAGES: 1
TITLE/SUBJECT: HANDWRITTEN NOTE STATING OPINION THAT ALL RESIDENTS IN
               MILL CREEK, MONTANA SHOULD BE RELOCATED AND THAT THE LAND
               SHOULD BE CONDEMNED.
       AUTHOR: MEYER, HELEN M.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100026          DATE: 01/05/87        PAGES: 1
TITLE/SUBJECT: HANDWRITTEN NOTE STATING OPINION THAT ALL RESIDENTS OF MILL
               CREEK, MONTANA BE RELOCATED AND THE LAND BE CONDEMNED.
       AUTHOR: MEYER, RICHARD W.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100027          DATE: 01/13/87         PAGES: 1
TITLE/SUBJECT: LETTER FROM RESIDENTS OF MILL CREEK REQUESTING PERMANENT
               RELOCATION.
       AUTHOR: HAUS, SYLVESTER & HELEN
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100027A         DATE: 01/13/87         PAGES: 2
TITLE/SUBJECT: A REQUEST FOR EXTENDING THE PUBLIC COMMENT PERIOD ON THE
               MILL CREEK REMEDIAL INVESTIGATION/FEASIBILITY STUDY.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100028          DATE: 01/15/87         PAGES: 2
TITLE/SUBJECT: SUPPORTING THE DRAFT MILL CREEK OPERABLE UNIT RI/FS.  NOTES
               THAT THE MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL
               SCIENCES SUPPORTS ACTIONS WHICH ARE FINAL AND LEAD TO SITE
               DELISTING.
       AUTHOR: DRYNAN, JOHN J.
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100029          DATE: 01/20/87         PAGES: 2
TITLE/SUBJECT: OPINIONS ABOUT THE PROBLEMS AND SOLUTIONS IN THE MILL CREEK
               AREA FROM A CONCERNED CITIZEN. (PORTIONS OF THIS DOCUMENT
               ARE ILLEGIBLE)
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100030          DATE: 01/21/87         PAGES: 4
TITLE/SUBJECT: COMMENTS ON THE MILL CREEK RI/FS REPORT.  DISCUSSES
               RELOCATION, 18" REMOVAL AND REVEGETATION, AND THE PUBLIC
               HEALTH IMPLICATIONS.  LISTS COSTS FOR ALTERNATIVES 1A, 1B3,
               12C, AND 8B3.  8B3 WAS CHOSEN BY THE AUTHOR.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100031          DATE: 00/00/00         PAGES: 2
TITLE/SUBJECT: MR. HANCOCK STATES HIS POSITION CONCERNING HIS PREFERRED
               REMEDIAL ALTERNATIVE AND GOES ON TO SAY THAT HE WILL NOT
               RELOCATE DURING CLEANUP PROCEDURES.  (SHOWS URINARY ARSENIC
               LEVELS FOR THE HANCOCK FAMILY FOR JUNE AND OCTOBER)
       AUTHOR: HANCOCK, LARRY D. & KIMBERLY A.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100032          DATE: 01/22/87          PAGES: 3
TITLE/SUBJECT: STATES THE POSITION OF ANACONDA-DEER LODGE COUNTY ON THE
               MILL CREEK RI/FS WHICH WAS COMPLETED BY THE ANACONDA
               MINERALS COMPANY.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100033          DATE: 01/25/87          PAGES: 1
TITLE/SUBJECT: OFFICIAL COMMENT STATING THAT NO DIRT CONTAINING HEAVY
               METALS SHOULD BE MOVED IN ANY WAY, IN ORDER TO PREVENT
               ANY AIRBORNE CONTAMINATION.  ALSO APPLIES TO THE PONDS.
       AUTHOR: PETERSON, PAUL
 ORGANIZATION: ARROWHEAD APIARIES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100034          DATE: 01/26/87          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF MILL CREEK FACT SHEETS, MILL CREEK
               ENDANGERMENT ASESSMENT, DRAFT MILL CREEK REMEDIAL
               INVESTIGATION, DRAFT FEASIBILITY STUDY REPORT, AND RI/FS
               REPORT SUPPLEMENT. (NONE ARE ATTACHED)
       AUTHOR: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: SCHMIDT, DEBORAH
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100035          DATE: 01/26/87          PAGES: 2
TITLE/SUBJECT: TRANSMITTAL OF TWO ATTACHMENTS WHICH WERE LEFT OUT OF AN
               EARLIER LETTER.  THEY INCLUDE THE MILL CREEK FACT SHEET
               (ATTACHMENTS NOT INCLUDED), AND A LIST OF ADDRESSEES.
       AUTHOR: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: HARRINGTON, DAN
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100036          DATE: 01/26/87E         PAGES: 1
TITLE/SUBJECT: STATES RESIDENTS PREFERENCE OF REMEDIAL ACTION AND NOTES
               THAT THEY DO NOT WANT TO BE RELOCATED.
       AUTHOR: DUDACK, ALLEN P. & IONE B.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100037          DATE: 01/29/87          PAGES: 4
TITLE/SUBJECT: HANDWRITTEN RESULTS OF A TELEPHONE SURVEY OF MILL CREEK
               RESIDENTS REGUARDING RELOCATION
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: TELEPHONE CONVERSATION
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FILE: 2021709 NUMBER: 100038 DATE: 02/02/87 PAGES: 2
TITLE/SUBJECT: PROPERTY OWNERS' FEELINGS ABOUT REDUCED PROPERTY VALUE AND HIS CHOICE OF REMEDIAL ACTION.
AUTHOR: HAMEL, EDWIN J.
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100039 DATE: 02/03/87 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE PUBLIC COMMENTS OF 30 RESIDENT FAMILIES OF THE MILL CREEK VALLEY, AND A LIST OF THE THIRTY FAMILIES REPRESENTED BY KNIGHT, DAHOOD, MCLEAN, AND EVERETT.
AUTHOR: DAYTON, RAY J.
ORGANIZATION: KNIGHT, DAHOOD, McLEAN & EVERETT
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100040 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: A LIST OF THIRTY MILL CREEK VALLEY RESIDENTS REPRESENTED BY KNIGHT, DAHOOD, MCLEAN, AND EVERETT.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021709 NUMBER: 100041 DATE: 00/00/00 PAGES: 67
TITLE/SUBJECT: "PUBLIC COMMENTS OF MILL CREEK RESIDENTS"
AUTHOR: NOT INDICATED
ORGANIZATION: KNIGHT, DAHOOD, McLEAN & EVERETT
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021709 NUMBER: 100043 DATE: 00/00/00 PAGES: 7
TITLE/SUBJECT: HANDWRITTEN DISCUSSION OF ARSENIC MCL, EXEMPTIONS AND VARIANCES. DOCUMENT ALSO TRANSMITS EXEMPTION FOR ARSENIC MCL GRANTED BY THE STATE OF NORTH DAKOTA TO LIDGERWOOD.
AUTHOR: SARCONE, JOE
ORGANIZATION: NOT INDICATED
ADDRESSEE: CALLAWAY, REX
ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
DOCUMENT TYPE: MEMO

FILE: 2021709 NUMBER: 100044 DATE: 02/05/87 PAGES: 3
TITLE/SUBJECT: HISTORY AND REVIEW OF THE THREE FORKS PUBLIC WATER SUPPLY, REVEALING THAT THREE FORKS WAS NEVER ISSUED AN EXEMPTION OR VARIANCE FROM THE ARSENIC MCL.
AUTHOR: ENGLE, BILL
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

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FILE: 2021709          NUMBER: 100045         DATE: 10/19/77E         PAGES: 31
TITLE/SUBJECT: A GROUP OF BACKGROUND MATERIAL REGARDING MAXIMUM CONTAINMENT
               LEVEL OF ARSENIC IN DRINKING WATER AND EXEMPTIONS THEREOF.
               DOCUMENT CONTAINS AN ENGINEERING REPORT ON DOMESTIC WATER
               QUALITY REGULATIONS IN CALIFORNIA, AND FINDINGS OF FACT
               BEFORE THE NEVADA STATE BOARD OF HEALTH.
       AUTHOR: GASTON, JOHN M.
 ORGANIZATION: CITY OF BERKELEY, CALIFORNIA, DEPT. OF HEALTH SERVICES
    ADDRESSEE: ASLESEN, ROBERT L.
 ORGANIZATION: CITY OF HANFORD, CALIFORNIA DEPARTMENT OF PUBLIC WORKS
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100045A        DATE: 02/06/87          PAGES:    3
TITLE/SUBJECT: SUMMARY OF COMMUNITY CONCERNS.  INCLUDES DIFFICULTY
               IN UNDERSTANDING THE EXACT RISKS AS STATED IN THE
               MILL CREEK ENDANGERMENT ASSESSMENT; FEAR THAT THE
               NOTORIETY AND LIMITATIONS IMPOSED WILL HINDER ECONOMIC
               DEVELOPMENT; AND DIMINISHING LAND VALUES.
       AUTHOR: ASPHOLM, AUDREY
 ORGANIZATION: ANACONDA COMMUNITY RELATIONS
    ADDRESSEE: HINZEL, ERIC
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021709          NUMBER: 100045B        DATE: 03/26/87          PAGES:    1
TITLE/SUBJECT: ACKNOWLEDGES RECEIPT OF LETTER DISCUSSING PROBLEMS IN
               MILL CREEK AND STATING THAT COPIES HAVE BEEN FORWARDED
               TO THE ENVIRONMENTAL PROTECTION AGENCY AND THE ANACONDA
               MINERALS COMPANY.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: HARRIS, TIMOTHY L.
 ORGANIZATION: CITIZEN(S) OF ANACONDA, MONTANA
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100045C        DATE: 01/01/00E         PAGES:    1
TITLE/SUBJECT: HANDWRITTEN LETTER SUPPORTING THE ANACONDA COMPANY'S OFFER
               TO BUY MILL CREEK PROPERTY.
       AUTHOR: HARRIS, TIMOTHY L.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100046         DATE: 05/21/87          PAGES: 3
TITLE/SUBJECT: DISCUSSION OF THE MAY 13, 1987 FIELD TRIP TO MILL CREEK AND
               WARM SPRINGS CREEK.  DOCUMENT ALSO DISCUSSES INFORMAL
               COMMENTS ON MOVING "JIB" SPOIL PILES AWAY FROM THE CREEK
               AND CONSEQUENTIAL ECOLOGICAL CONSIDERATIONS, I.E., FISHKILLS
               AND HABITAT CONCERNS.
       AUTHOR: WOOD, JOHN G.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR, FISH & WILDLIFE SERVICE
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021709          NUMBER: 100047         DATE: 05/26/87          PAGES: 1
TITLE/SUBJECT: A FOLLOW UP DISCUSSION TO THE MAY 13, 1987 TOUR OF MILL
               CREEK, TRANSMITTING A FEASIBILITY STUDY FOR MILL CREEK WITH
               MAPS OF THE 160 ACRE PROJECT AREA. DOCUMENT REQUESTS COMMENT
               CONCERNING THE WETLAND AREAS, AND DISCUSSES CLEANUP
               ALTERNATIVES.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: PHILLIPS, GLENN
 ORGANIZATION: MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
DOCUMENT TYPE: LETTER
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FILE: 2021709 NUMBER: 100048 DATE: 06/10/87 PAGES: 1
TITLE/SUBJECT: REGARDING REMEDIAL ACTIONS AT THE ANACONDA SMELTER SITE. INDICATES A MEETING ATTENDED 5/13/87. DISCUSSION OF REDUCING HAZARDS ASSOCIATED WITH TAILINGS IN THE CLARK FORK RIVER DRAINAGE FLOODPLAIN. REQUESTS AN OPPORTUNITY TO REVIEW AND COMMENT ON THE REMEDIAL DESIGN DRAFT.
AUTHOR: PHILLIPS, GLENN
ORGANIZATION: MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MEMO

FILE: 2021709 NUMBER: 100049 DATE: 06/10/87 PAGES: 3
TITLE/SUBJECT: TRANSMITTAL OF AN INTERAGENCY AGREEMENT BETWEEN THE U. S. FISH AND WILDLIFE SERVICE AND THE ENVIRONMENTAL PROTECTION AGENCY CONCERNING SUPPORT EXPERTISE FOR THE REMEDIAL INVESTIGATION/FEASIBILITY STUDIES, ANACONDA SMELTER SUPERFUND PROJECT.
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: JONES, BILL
ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR, FISH & WILDLIFE SERVICE
DOCUMENT TYPE: LETTER

FILE: 2021709 NUMBER: 100050 DATE: 09/06/87 PAGES: 3
TITLE/SUBJECT: REGARDING CONCERN ABOUT THE FINAL CLEAN-UP DECISION AND A REQUEST THAT THE ENVIRONMENTAL PROTECTION AGENCY ALLOW THOSE PEOPLE MAKING FINAL DECISIONS TO READ THE LETTERS CONVEYED BY THE MILL CREEK RESIDENTS.
AUTHOR: PATTERSON, PEG
ORGANIZATION: CITIZEN(S) OF ANACONDA, MONTANA
ADDRESSEE: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100001 DATE: 06/05/86 PAGES: 1
TITLE/SUBJECT: RESPONSE TO REQUEST FOR INFORMATION CONCERNING THE TIMING AND AMOUNT OF STATE MATCH NEEDED FOR PERMANENT CLEANUP AND RELOCATION AT THE MILL CREEK, MONTANA SITE
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DRYNAN, JOHN J.
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100002 DATE: 06/18/86 PAGES: 1
TITLE/SUBJECT: WRITTEN ON BEHALF OF THE RESIDENTS OF THE MILL CREEK COMMUNITY TO TRY AND EXPEDITE THE REMAINING ANALYSIS AND EVALUATION OF REMEDIAL ALTERNATIVES FOR THE SUPERFUND INVESTIGATION WHICH IS UNDERWAY.
AUTHOR: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
ADDRESSEE: WELLES, JOHN G.
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100003 DATE: 07/10/86E PAGES: 2
TITLE/SUBJECT: RESPONSE TO THE GOVERNORS LETTER CONCERNING QUICK CORRECTIVE ACTION IN MILL CREEK. BREAKDOWN OF ACTIONS TAKEN, THOSE UNDERWAY AND APPROXIMATE TIME FRAMES FOR FUTURE ACTION.
AUTHOR: WELLES, JOHN G.
ORGANIZATION: USEPA-VIII
ADDRESSEE: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100004 DATE: 07/14/86 PAGES: 1
TITLE/SUBJECT: REQUESTS THE EPA TO MOVE AS QUICKLY AS POSSIBLE TO A SOLUTION TO PROBLEMS AT MILL CREEK.
AUTHOR: WILLIAMS, PAT
ORGANIZATION: U.S. CONGRESS
ADDRESSEE: THOMAS, LEE
ORGANIZATION: USEPA
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100005 DATE: 08/13/86 PAGES: 4
TITLE/SUBJECT: REQUESTS A RESPONSE TO THREE KEY COORDINATION ISSUES WHICH WERE DISCUSSED AT A MEETING ON MAY 21, 1986 CONCERNING PERMANENT RELOCATION OF RESIDENTS OF MILL CREEK AS A VIABLE PERMANENT REMEDY. RESPONSE IS REQUESTED BY SEPT. 2, 1986.
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DRYNAN, JOHN J.
ORGANIZATION: HAUS, SYLVESTER & ELLEN
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100006 DATE: 08/15/86 PAGES: 1
TITLE/SUBJECT: REQUESTS INFORMATION CONCERNING THE COUNTY'S AUTHORITY TO CONDEMN PRIVATE PROPERTY WHEN DEALING WITH PUBLIC HEALTH PROBLEMS, AND WOULD LIKE A DISCUSSION RELEVANT TO STATUTORY AUHORITY AND CASE LAW. AUTHOR WOULD LIKE A RESPONSE BY SEPT. 23, 1986 WHICH IS THE RELEASE OF DRAFT RIFS
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: BIFOSS, R. BEN
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100007 DATE: 08/26/86 PAGES: 1
TITLE/SUBJECT: A REQUEST FOR SUPPORT OF ANACONDA-DEER LODGE COUNTY TO GAIN ASSISTANCE FROM THE ATTORNEY GENERAL'S OFFICE IN ORDER TO GAIN THE PROPER LEGAL OPINION CONCERNING THE CONDEMNATION OF PRIVATE PROPERTY BASED ON A PUBLIC HEALTH PROBLEM
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DRYNAN, JOHN J.
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100008 DATE: 08/27/86 PAGES: 2
TITLE/SUBJECT: CONCERNS THE USE OF INSTITUTIONAL CONTROLS IN REMEDIAL ACTIONS WITH AMC/ARCO AND REQUESTS CERTIFICATION OF THESE CONTROLS BY THE STATE PRIOR TO THE DRAFT MILL CREEK RI/FS BEING SENT TO PUBLIC NOTICE
AUTHOR: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: DRYNAN, JOHN J.
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER

FILE: 2021710 NUMBER: 100008A DATE: 08/27/86 PAGES: 4
TITLE/SUBJECT: RESPONSE TO AN 8/13/86 REQUEST FOR CLARIFICATION OF THE STATE'S POSITION REGARDING CONDEMNATION AUTHORITY, STATE MATCH FOR EPA EXPENDITURES, AND STATE'S WILLIGNESS TO ACCEPT TITLE.
AUTHOR: DRYNAN, JOHN J.
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

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FILE: 2021710          NUMBER: 100008B        DATE: 08/29/86        PAGES: 11
TITLE/SUBJECT: TRANSMITTAL OF 8/28/86 MEMO TO URBAN L. ROTH FROM JOHN P.
               DAVIS REGARDING ARCO VS. STATE.
       AUTHOR: ROTH, URBAN L.
 ORGANIZATION: POORE, ROTH, & ROBINSON, P.C.
    ADDRESSEE: ORR, KATHERINE
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008C        DATE: 09/12/86E       PAGES: 11
TITLE/SUBJECT: REGARDING MONTANA'S AUTHORITY IN SUPPORT OF RESTRICIVE
               COVENANTS IN DEEDS AND ZONING AS INSTITUTIONAL CONTROLS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021710          NUMBER: 100008D        DATE: 09/15/86        PAGES: 1
TITLE/SUBJECT: CLARIFICATION OF LETTERS DATED 8/13/86, 8/26/86, AND 8/27/86
               REQUESTING LEGAL OPINIONS CONCERNING STATE AND COUNTY
               CONDEMNATION POWERS AND THE USE OF INSTITUTIONAL CONTROLS IN
               CERCLA REMEDIES.  THIS CERTIFICATION NEEDS TO BE ISSUED BY
               THE ATTORNEY GENERAL OF THE STATE OR HIS DELEGATE.
       AUTHOR: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: DRYNAN, JOHN J.
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008E        DATE: 09/15/86        PAGES: 3
TITLE/SUBJECT: THREE COPIES OF A REQUEST FOR THE MONTANA ATTORNEY GENERAL'S
               OFFICE TO PROMPTLY RESOLVE THREE SETS OF ISSUES REGARDING
               STATE LAW.  INDICATES THAT THE REQUEST WAS FORWARDED
               THROUGH THE STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL
               SCIENCES.
       AUTHOR: SPEICHER, THOMAS A.
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
    ADDRESSEE: DRISCOLL, PATRICK
 ORGANIZATION: MONTANA OFFICE OF THE ATTORNEY GENERAL
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008F        DATE: 09/23/86        PAGES: 2
TITLE/SUBJECT: SUMMARY OF A TELEPHONE CALL REGARDING A MEMORANDUM (9/12/86)
               WHICH DISCUSSES THE USE OF "INSTITUTIONAL CONTROLS" SUCH AS
               RESTRICTIVE COVENANTS AND ZONING.  MONTANA STATE DEPARTMENT
               OF HEALTH AND ENVIRONMENTAL SCIENCES LEGAL DIVISION PROVIDES
               COMMENTS ON THE LIMITATIONS OF STATE LAW.
       AUTHOR: ORR, KATHERINE
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
    ADDRESSEE: ROTH, URBAN L.
 ORGANIZATION: POORE, ROTH, & ROBINSON, P.C.
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008G        DATE: 11/24/86        PAGES: 2
TITLE/SUBJECT: REGARDING QUESTIONS THE OFFICE OF THE GOVERNOR OF MONTANA
               NEEDS ANSWERS TO ABOUT MILL CREEK, THE CONDEMNATION OF
               PROPERTY, AND THE STATE'S ROLE, RESPONSIBILITY AND LIABILITY
               IN ORDER TO RESPOND TO A FEMA REQUEST OF THE STATE'S WILL-
               INGNESS TO PARTICIPATE IN PERMANENT RELOCATION OF RESIDENTS.
       AUTHOR: SCHWINDEN, TED
 ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
    ADDRESSEE: WELLES, JOHN G.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008H          DATE: 02/17/87         PAGES: 1
TITLE/SUBJECT: ROUTING AND TRANSMITTAL SLIP CONTAINING THE REMARKS:
               CDM - PLEASE DELIVER TO MIKE BISHOP - EPA MONTANA
               OFFICE (EXPRESS OR HAND CARRY).
       AUTHOR: CALLAWAY, REX
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: ERICSON, JAMES W.
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
DOCUMENT TYPE: ROUTING SLIP
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FILE: 2021710          NUMBER: 100008I          DATE: 07/30/87         PAGES: 1
TITLE/SUBJECT: CONCERNING THE DRAFT COPIES OF THE RECORD OF DECISION AND
               THE ANALYSIS OF APPLICABLE OR RELEVANT AND APPROPRIATE STATE
               AND FEDERAL REQUIREMENTS FOR THE MILL CREEK OPERABLE UNIT OF
               THE ANACONDA SMELTER SITE WHICH HAVE NOT BEEN REVIEWED BY
               EPA HEADQUARTERS WHOSE COMMENTS MAY RESULT IN MINOR CHANGES.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: RUBICH, MIKE
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100008J          DATE: 07/30/87         PAGES: 1
TITLE/SUBJECT: CONCERNING THE DRAFT COPIES OF THE RECORD OF DECISION AND
               THE ANALYSIS OF APPLICABLE OR RELEVANT AND APPROPRIATE STATE
               AND FEDERAL REQUIREMENTS FOR THE MILL CREEK OPERABLE UNIT OF
               THE ANACONDA SMELTER SITE WHICH HAVE NOT BEEN REVIEWED BY
               EPA HEADQUARTERS WHOSE COMMENTS MAY RESULT IN MINOR CHANGES.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: RUBICH, MIKE
 ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100009           DATE: 08/14/87         PAGES: 1
TITLE/SUBJECT: AS A FOLLOW UP TO THE PHONE CONVERSATION OF JULY 29, 1987 A
               DISCUSSION WITH GOVERNER SCHWINDEN TOOK PLACE AND HE
               EXPRESSED A WILLINGNESS TO HAVE THE STATE TAKE TITLE TO
               PROPERTY AND TO SEEK STATUTORY AUTHORITY FOR PROPERTY
               CONDEMNATION AS NEEDED TO ACCOMPLISH REMEDIAL ACTIONS.
       AUTHOR: JOHNSON, HOWARD
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: ROBINSON, CHARLES
 ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
DOCUMENT TYPE: LETTER
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FILE: 2021710          NUMBER: 100010           DATE: 09/18/87         PAGES: 4
TITLE/SUBJECT: ACKNOWLEDGING THE RECEIPT OF A COPY OF THE EPA'S
               NOTIFICATION TO ATLANTIC RICHFIELD COMPANY PURSUANT TO
               SECTION 122(E) OF CERCLA AT THE MILL CREEK OPERABLE UNIT.
               (COPY OF NOTIFICATION IS ATTACHED)
       AUTHOR: STEWART, ROBERT F.
 ORGANIZATION: U.S. DEPARTMENT OF THE INTERIOR
    ADDRESSEE: SCHERER, JIM
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER
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FILE: 2021711 NUMBER: 100001 DATE: 08/13/87 PAGES: 1
TITLE/SUBJECT: STATES THAT THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES SUPPORTS STATE CONCURRENCE WITH THE ROD/ARAR'S DOCUMENTS. THE DEPARTMENT FEELS THAT RELOCATION PROVIDES THE MOST EFFECTIVE MEANS OF REDUCING HEALTH RISK TO MILL CREEK RESIDENTS
AUTHOR: DRYNAN, JOHN J.
ORGANIZATION: MONTANA DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES
ADDRESSEE: SCHWINDEN, TED
ORGANIZATION: STATE OF MONTANA, OFFICE OF THE GOVERNOR
DOCUMENT TYPE: MEMO

FILE: 2021711 NUMBER: 100003 DATE: 08/24/87 PAGES: 1
TITLE/SUBJECT: NOTICE THAT REVIEW OF THE MILL CREEK ROD/ARAR DRAFT DOCUMENTS, BY CONCERNED BRANCHES OF STATE GOVERNMENT, HAS BEEN COMPLETED AND THAT THE STATE OF MONTANA WILL CONCUR WITH THE ROD. NOTES CONCERN FOR THE RESIDENTS OF MILL CREEK AND THEIR PROPER TREATMENT
AUTHOR: DRYNAN, JOHN J.
ORGANIZATION: STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
ADDRESSEE: SCHERER, JIM
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300001 DATE: 04/29/86 PAGES: 5
TITLE/SUBJECT: LETTER GIVING ARCO THE OPPORTUNITY TO CONDUCT REMOVAL ATIVITIES INCLUDING TEMPORARY EVACUATION AND ROAD DUST SUPPRESSION.
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA-VIII
ADDRESSEE: COX, RALPH
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300002 DATE: 06/10/86 E PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF THE CERCLA SECTION 106 ADMINISTRATIVE ORDER ON CONSENT.
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA-VIII
ADDRESSEE: KRABLIN, RICHARD
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300003 DATE: 06/09/86 PAGES: 21
TITLE/SUBJECT: CERCLA SECTION 106 ADMINISTRATIVE ORDER ON CONSENT PERTAINING TO ROAD DUST SUPPRESSION.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT

FILE: 2021712 NUMBER: 300004 DATE: 06/23/86 E PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF CORRECTED PAGES OF THE CERCLA SECTION 106 ADMINISTRATIVE ORDER ON CONSENT AND A COPY OF ATTACHMENT B.
AUTHOR: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
ADDRESSEE: KRABLIN, RICHARD
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300005 DATE: 00/00/00 PAGES: 6
TITLE/SUBJECT: CORRECTED PAGES OF THE CERCLA SECTION 106 ADMINISTRATIVE ORDER ON CONSENT AND ATTACHMENT B OF THAT ORDER.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: COURT DOCUMENT

FILE: 2021712 NUMBER: 300006 DATE: 05/18/87 PAGES: 1
TITLE/SUBJECT: ADVISING THAT AMC HAS COMPLETED THE DUST SUPPRESSANT APPLICATION, AS REQUIRED IN THE ADMINISTRATIVE ORDER ON CONSENT, BY MAY 30, 1987.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: CRISLER, CHERYL
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300007 DATE: 10/22/86 PAGES: 2
TITLE/SUBJECT: ADVISING THAT AMC HAS COMPLETED THE DUST SUPPRESSANT APPLICATION TO PUBLIC ROADS AND PRIVATE DRIVEWAYS, AS REQUIRED IN THE ADMINISTRATIVE ORDER ON CONSENT, BY OCTOBER 30, 1986.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: CRISLER, CHERYL
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300008 DATE: 06/30/86 E PAGES: 3
TITLE/SUBJECT: AMENDMENT AND CHANGE TO SCOPE OF WORK FOR REMOVAL ACTIONS AT THE MILL CREEK, MONTANA SITE. AS A RESULT OF THIS CHANGE, THE NUMBER OF FAMILIES IDENTIFIED FOR TEMPORARY RELOCATION IN THE ORIGINAL ACTION MEMORANDUM (04/29/86) IS EXPECTED TO INCREASE.
AUTHOR: JONES, RICHARD
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: MEMO

FILE: 2021712 NUMBER: 300009 DATE: 04/29/87 E PAGES: 4
TITLE/SUBJECT: INCREASE OF CEILING COSTS FOR REMOVAL ACTION AT MILL CREEK, MONTANA SITE IN ORDER TO CONTINUE THE TEMPORARY RELOCATION OF RESIDENTS FROM MILL CREEK UNTIL A REMEDY IS SELECTED AND IMPLEMENTED.
AUTHOR: JONES, RICHARD
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: MEMO

FILE: 2021712 NUMBER: 300010 DATE: 12/20/85 PAGES: 2
TITLE/SUBJECT: PROVIDES A LISTING OF HYGIENE MEASURES TO HELP RESIDENTS OF MILL CREEK MINIMIZE THEIR EXPOSURE TO CONTAMINATED SOIL AND DUST. ALSO PROVIDES A SUMMARY OF ARSENIC LEVELS IN CHILDREN'S URINE IN THE ANACONDA AREA (1985).
AUTHOR: BISHOP, MIKE
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER

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FILE: 2021712          NUMBER: 300011          DATE: 09/05/86        PAGES: 3
TITLE/SUBJECT: CONCLUSIONS AND RECOMMENDATIONS OF A HEALTH ASSESSMENT PER-
               FORMED BY ASTDR AT EPA'S REQUEST.  BACKGROUND INFORMATION,
               DOCUMENTS REVIEWED, AND A DISCUSSION OF THE CONCLUSIONS ALSO
               PROVIDED.
       AUTHOR: LYBARGER, JEFFREY A. (M.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: MCGEEHIN, MICHAEL
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021712          NUMBER: 300012          DATE: 02/05/86        PAGES: 2
TITLE/SUBJECT: REQUEST BY THE ENVIRONMENTAL ADVISORY COUNCIL THAT EPA PRO-
               VIDE:  A WRITTEN PLAN OF ACTION, A "STANDARD OF CLEANLINESS
               FOR THE CLEANUP, AND FOLLOWUP MONITORING".
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300013          DATE: 02/12/86        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A MATERIAL SAFETY DATA SHEET AND SPECIFICA-
               TION SHEET FOR MONTANA REFINING COMPANY PRODUCT DO-4 OIL.
       AUTHOR: STINSON, MARCY
 ORGANIZATION: MONTANA REFINING CO.
    ADDRESSEE: WINDORSKI, JIM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300014          DATE: 00/00/00        PAGES: 3
TITLE/SUBJECT: MATERIAL SAFETY DATA SHEET AND SPECIFICATION SHEET FOR
               MONTANA REFINING COMPANY PRODUCT DO-4 OIL.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712          NUMBER: 300015          DATE: 02/11/86        PAGES: 1
TITLE/SUBJECT: DISCUSSES OF PRICES AND SHIPPING INFORMATION FOR CENEX
               PRODUCT 1007 DUST OIL.  ALSO TRANSMITS A MATERIAL SAFETY
               DATA SHEET ON THIS PRODUCT.
       AUTHOR: SMITH, DARRELL D.
 ORGANIZATION: CENEX
    ADDRESSEE: WINDORSKI, JIM
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300016          DATE: 00/00/00        PAGES: 2
TITLE/SUBJECT: MATERIAL SAFETY DATA SHEFT FOR CENEX PRODUCT 1007 DUST OIL.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712          NUMBER: 300017         DATE: 03/18/86 E      PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF CDC RESPONSE TO THE REQUEST OF THE ENVIRON-
               MENTAL ADVISORY COUNCIL OF ANACONDA - DEER LODGE COUNTY FOR
               A "HUMAN HEALTH STUDY".
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
    ADDRESSEE: McGEEHIN, MICHAEL
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 2021712          NUMBER: 300018         DATE: 03/10/86        PAGES: 1
TITLE/SUBJECT: RESPONSE OF CDC TO THE REQUEST FROM THE ENVIRONMENTAL
               ADVISORY COUNCIL OF ANACONDA - DEER LODGE COUNTY FOR THE
               CONDUCTION OF A HEALTH STUDY.
       AUTHOR: BINDER, SUE (M.D.)
 ORGANIZATION: DEPARTMENT OF HEALTH & HUMAN SERVICES
    ADDRESSEE: BUYNOWSKI, GEORGE
 ORGANIZATION: USEPA
DOCUMENT TYPE: MEMO
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FILE: 2021712          NUMBER: 300019         DATE: 03/26/86 E      PAGES: 13
TITLE/SUBJECT: RESPONSE TO THE ENVIRONMENTAL ADVISORY COUNCIL'S REQUESTS
               REGARDING THE PROPOSED CLEANUP OF THE MILL CREEK COMMUNITY.
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
    ADDRESSEE: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300020         DATE: 04/04/86        PAGES: 3
TITLE/SUBJECT: THE ENVIRONMENTAL ADVISORY COUNCIL'S RESPONSE TO OPTIONS
               OUTLINED IN LETTER DATED MARCH 26, 1986.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300021         DATE: 05/02/86        PAGES: 1
TITLE/SUBJECT: COMMENTS ON EPA'S INVESTIGATION OF THE COMMUNITY OF MILL
               CREEK, MONTANA.  ANACONDA DECLINES THE OFFER BY THE EPA TO
               EVACUATE THE HOUSEHOLDS, BUT TAKES RESPONSIBILITY FOR ROAD
               DUST SUPPRESSION.
       AUTHOR: BOWLIN, MIKE R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300022         DATE: 05/16/86        PAGES: 1
TITLE/SUBJECT: ADDRESSES THE ISSUE OF IMMEDIATE TEMPORARY RELOCATION FOR
               MILL CREEK FAMILIES WITH CHILDREN.
       AUTHOR: BIFOSS, R. BEN
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300023          DATE: 05/28/86          PAGES: 1
TITLE/SUBJECT: LISTS THE INFORMATION NEEDED FROM AMC BEFORE THEY CAN PRO-
               CEED WITH ROAD OILING IN THE MILL CREEK AREA.
       AUTHOR: PEDERSON, DICK
 ORGANIZATION: DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
    ADDRESSEE: HALLER, PETER H.
 ORGANIZATION: KARR, TUTTLE, KOCH, CAMPBELL, MAWER, MORROW & SAX
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300024          DATE: 06/05/86          PAGES: 1
TITLE/SUBJECT: CONFIRMATION OF TELEPHONE CONVERSATION ADVISING THAT AMC
               WILL INITIATE THE DUST SUPPRESSION APPLICATION IN MILL CREEK
               IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSENT ORDER.
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300025          DATE: 06/05/86          PAGES: 2
TITLE/SUBJECT: SUBMISSION OF INFORMATION NEEDED BY THE STATE OF MONTANA
               WATER QUALITY BUREAU TO APPROVE DUST SUPPRESSANT APPLICATION
       AUTHOR: DAVIS, JACK R.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: PEDERSON, DICK
 ORGANIZATION: STATE OF MONTANA, WATER QUALITY BUREAU
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300026          DATE: 10/14/85          PAGES: 1
TITLE/SUBJECT: WELL LOG REPORT SUBMITTED BY AMC.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300027          DATE: 00/00/00          PAGES: 3
TITLE/SUBJECT: SPECIFICATION SHEET AND MATERIAL SAFETY DATA SHEET FOR
               MONTANA REFINING COMPANY PRODUCT DO-4 OIL.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712          NUMBER: 300028          DATE: 06/11/86 E        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A DESCRIPTION OF SAMPLE LOCATIONS AT THE
               ALZIE LIVELY RESIDENCE AND RESULTS OF SOIL SAMPLE ANALYSES
               (NOT ATTACHED; UNSIGNED).
       AUTHOR: JONES, RICHARD
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: LIVELY, ALZIE
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021712          NUMBER: 300029          DATE: 06/11/86 E        PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A DESCRIPTION OF SAMPLE LOCATIONS AT THE
               DAHL/FABOR RESIDENCE AND RESULTS OF SOIL SAMPLE ANALYSES
               (NOT ATTACHED; UNSIGNED).
       AUTHOR: JONES, RICHARD
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: DAHL, CLARENCE
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
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FILE: 2021712 NUMBER: 300030 DATE: 06/11/86 E PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A DESCRIPTION OF SAMPLE LOCATIONS AT THE WHITEHEAD RESIDENCE AND RESULTS OF SOIL SAMPLE ANALYSES (NOT ATTACHED; UNSIGNED).
AUTHOR: JONES, RICHARD
ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
ADDRESSEE: WHITEHEAD, WILLIAM
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300031 DATE: 06/25/86 PAGES: 2
TITLE/SUBJECT: ADDRESSING INQUIRIES MADE BY MILL CREEK RESIDENTS ASSOCIATION ABOUT DELAYS IN REMEDIAL ACTION AT THE MILL CREEK SITE
AUTHOR: DRYNAN, JOHN J.
ORGANIZATION: DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
ADDRESSEE: PATTERSON, PEG
ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300032 DATE: 07/14/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A LOS ANGELES TIMES NEWSPAPER ARTICLE AND COMMENTS RELATING TO THAT ARTICLE.
AUTHOR: KRABLIN, RICHARD
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: DUPREY, ROBERT L.
ORGANIZATION: USEPA REGION VIII, WASTE MANAGEMENT DIVISION
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300033 DATE: 07/01/86 PAGES: 1
TITLE/SUBJECT: NEWSPAPER ARTICLE ENTITLED: "FAMILIES NEAR SMELTER TO BE MOVED".
AUTHOR: NOT INDICATED
ORGANIZATION: LOS ANGELES TIMES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300034 DATE: 07/22/86 PAGES: 1
TITLE/SUBJECT: EXPRESSING MILL CREEK RESIDENTS ASSOCIATION'S OPINION OF AMC'S ROAD OILING ACTIVITIES.
AUTHOR: PATTERSON, PEG
ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
ADDRESSEE: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300035 DATE: 08/01/86 PAGES: 2
TITLE/SUBJECT: SUBMISSION OF PROGRESS REPORT NO. 1 COVERING THE MONTH OF JULY 1986, IN ACCORDANCE WITH THE ADMINISTRATIVE ORDER ON CONSENT.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300036 DATE: 09/09/86 PAGES: 2
TITLE/SUBJECT: IN ACCORDANCE WITH THE ADMINISTRATIVE ORDER ON CONSENT, AMC'S ADVISING OF A DEVIATION FROM THE WORK PLAN REGARDING DATA VALIDATION.
AUTHOR: DAVIS, JACK R.
ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
ADDRESSEE: WARDELL, JOHN
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300037 DATE: 00/00/00 PAGES: 2
TITLE/SUBJECT: NEWS RELEASE STATING THAT FAMILIES WITH SMALL CHILDREN WILL BE GIVEN THE OPPORTUNITY TO TEMPORARILY MOVE FROM A COMMUNITY CONTAMINATED WITH ARSENIC AND OTHER METALS.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300038 DATE: 06/00/85 E PAGES: 4
TITLE/SUBJECT: SUPERFUND PROGRAM FACT SHEET GIVING AN OVERVIEW OF SUPERFUND AND THE ANACONDA SMELTER SUPERFUND SITE.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300039 DATE: 07/09/85 PAGES: 3
TITLE/SUBJECT: FACT SHEET ON THE ANACONDA SMELTER SUPERFUND SITE ADDRESSING URINARY ARSENIC RESULTS, LOW-LEVEL ARSENIC EXPOSURE, AND LONG TERM SOLUTION.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300040 DATE: 00/00/00 PAGES: 2
TITLE/SUBJECT: FACT SHEET DISCUSSING THE TEMPORARY RELOCATION OF FAMILIES IN MILL CREEK.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300041 DATE: 00/00/00 PAGES: 2
TITLE/SUBJECT: FACT SHEET DISCUSSING THE TEMPORARY RELOCATION OF FAMILIES IN MILL CREEK.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021712          NUMBER: 300042          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: FACT SHEET CONCERNING TEMPORARY RELOCATION OF FAMILIES IN
               MILL CREEK, MONTANA BY THE FEMA.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300043          DATE: 08/00/85 E        PAGES: 4
TITLE/SUBJECT: SUPERFUND PROGRAM FACT SHEET ABOUT THE ANACONDA SMELTER SITE
               DISCUSSING THE WINTER URINARY ARSENIC STUDY, HEALTH EFFECTS
               SOIL STUDY, AND PUBLIC INFORMATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300044          DATE: 10/00/85 E        PAGES: 6
TITLE/SUBJECT: SUPERFUND PROGRAM FACT SHEET ON THE ANACONDA SMELTER SITE
               DISCUSSING THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300045          DATE: 12/10/85          PAGES: 1
TITLE/SUBJECT: NOTICE OF A SPECIAL COMMUNITY MEETING CALLED BY THE EPA TO
               ALLOW CDC TO REVIEW WITH THE PUBLIC THE FINDINGS OF THE
               SUMMMER URINARY ARSENIC SURVEY.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300046          DATE: 12/10/85          PAGES: 4
TITLE/SUBJECT: FACT SHEET ON THE ANACONDA SMELTER SUPERFUND SITE ADDRESS-
               ING CONCERNS OF THE RELEASE OF METAL CONTAMINANTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300047          DATE: 11/04/85 E        PAGES: 1
TITLE/SUBJECT: SUMMARY REPORT ON SITE MONITOR ACTIVITIES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300048          DATE: 12/10/85          PAGES: 4
TITLE/SUBJECT: FACT SHEET ON THE ANACONDA SMELTER SUPERFUND SITE ADDRESS-
               ING CONCERNS OF THE RELEASE OF METAL CONTAMINANTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300050          DATE: 05/00/86 E          PAGES: _
TITLE/SUBJECT: FACT SHEET DISCUSSING TEMPORARY RELOCATION OF MILL CREEK
               RESIDENTS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300051          DATE: 09/00/86            PAGES: 5
TITLE/SUBJECT: SUPERFUND PROGRAM UPDATE ON THE ANACONDA SMELTER SITE
               ADDRESSING TEMPORARY RELOCATION ON MILL CREEK RESIDENTS,
               REMEDIAL INVESTIGATION/FEASIBILITY STUDY, AND PUBLIC COMMENT
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300052          DATE: 03/10/86            PAGES: 62
TITLE/SUBJECT: "ANALYTICAL RESULTS FOR RESIDENTIAL DUST AND SOIL SAMPLING
               IN ANACONDA, MONTANA, AND SURROUNDING COMMUNITIES TDD
               R8-8511-11"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300053          DATE: 12/00/85            PAGES: 28
TITLE/SUBJECT: "SUMMARY OF AVAILABLE SOILS DATA", MILL CREEK, MONTANA, DOC-
               UMENT CONTROL NO. BAL TTB-062DO.
       AUTHOR: NOT INDICATED
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: REPORT/STUDY
--------------------------------------------------------------------------------

FILE: 2021712          NUMBER: 300054          DATE: 00/00/00            PAGES: 1
TITLE/SUBJECT: "MILL CREEK ARSENIC, LEVALS POSE SAME HEALTH THREAT AS
               SMOKING."  DISCUSSION OF POSSIBLE RELOCATION OF FAMILIES
               AND REASONS WHY.
       AUTHOR: MUNDSTOCK, WALTER
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712          NUMBER: 300055          DATE: 11/23/85            PAGES: 1
TITLE/SUBJECT: "EPA CONSIDERING MOVING MILL CREEK FAMILIES", DISCUSSION OF
               RELOCATION BY FORMER LOVE CANAL RESIDENT.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712 NUMBER: 300056 DATE: 12/20/85 PAGES: 1
TITLE/SUBJECT: "MILL CREEK RESIDENTS FIND THEMSELVES IN QUANDRY", DISCUSSION OF DIFFERING VIEWS ON THE RELOCATION ISSUE.
AUTHOR: MUNDSTOCK, WALTER
ORGANIZATION: THE ANACONDA LEADER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300057 DATE: 01/12/86 PAGES: 1
TITLE/SUBJECT: "SMELTER HILL - A LEGACY OF DANGERS", DISCUSSION OF MICHELLE SMITH'S FEARS OF DANGER TO HER FAMILY FROM ANACONDA COPPER COMPANY'S SMELTER.
AUTHOR: DOLAN, MAURA
ORGANIZATION: LOS ANGELES TIMES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300058 DATE: 01/12/86 PAGES: 1
TITLE/SUBJECT: "ARSENIC: SMELTER HILL LEAVES LEGACY OF DANGER", CONTINUATION OF ARTICLE CONTAINED ON DOCUMENT NO. 300057.
AUTHOR: DOLAN, MAURA
ORGANIZATION: LOS ANGELES TIMES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300059 DATE: 01/12/86 PAGES: 1
TITLE/SUBJECT: "ARSENIC: MILL CREEK, MONT., IN TURMOIL", CONTINUATION OF ARTICLE CONTAINED ON DOCUMENT NO. 300057.
AUTHOR: DOLAN, MAURA
ORGANIZATION: LOS ANGELES TIMES
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300060 DATE: 01/15/86 PAGES: 1
TITLE/SUBJECT: "MILL CREEK RELOCATION QUESTION MAY BE ANSWERED THURSDAY", DICUSSION OF RELOCATION AND RESIDENTS REACTION CONCERNING THE HIGH URINARY ARSENIC LEVELS.
AUTHOR: SIMPSON, RICH
ORGANIZATION: THE MONTANA STANDARD
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300061 DATE: 00/00/00 PAGES: 1
TITLE/SUBJECT: "MILL CREEK FAMILIES WON'T BE RELOCATED", DISCUSSION OF EPA PUBLIC MEETING.
AUTHOR: DOLAN, MAURA
ORGANIZATION: THE MISSOULIAN
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300062 DATE: 01/15/86 PAGES: 1
TITLE/SUBJECT: "MILL CREEK CLEANUP EPA TO CONSIDER TEMPORARY RELOCATION", DISCUSSION OF THE TEMPORARY RELOCATION OF MILL RESIDENTS, NOTIFICATION OF MEETING.
AUTHOR: BRIESCH, ELLEEN
ORGANIZATION: THE ANACONDA LEADER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300063 DATE: 01/17/86 PAGES: 1
TITLE/SUBJECT: "MILL CREEK MOVE WON'T COME UNTIL MAY, IF EVER", DISCUSSION OF EPA'S FAST TRACK TEAM MEMBERS' 60 DAY STUDY IN RELATION TO FEDERAL CLEANUP.
AUTHOR: SIMPSON, RICH
ORGANIZATION: THE MONTANA STANDARD
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300064 DATE: 01/18/86 PAGES: 1
TITLE/SUBJECT: "RISK OF MILL CREEK 'NOT SERIOUS'", DISCUSSION OF RELOCATION ISSUE BY OFFICIALS AND RESIDENTS CONNECTED TO THE MILL CREEK SITE.
AUTHOR: NOT INDICATED
ORGANIZATION: THE BILLINGS GAZETTE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300065 DATE: 02/21/86 PAGES: 1
TITLE/SUBJECT: "SUPERFUND CUTS MAY AFFECT REMAINING CLEANUP ACTIVITIES", DISCUSSION OF POSSIBLE FUNDING CUTS AND THE ADVERSE EFFECTS TO THE EPA.
AUTHOR: MUNDSTOCK, WALTER
ORGANIZATION: THE ANACONDA LEADER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300066 DATE: 02/21/86 PAGES: 1
TITLE/SUBJECT: "CLEANUP MAY BE DELAYED", DISCUSSION OF HUMAN HEALTH STUDY TO BE CONDUCTED BY THE MONTANA STATE HEALTH DEPARTMENT.
AUTHOR: MUNDSTOCK, WALTER
ORGANIZATION: THE ANACONDA LEADER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300067 DATE: 03/28/86 PAGES: 1
TITLE/SUBJECT: "MILL CREEK CLEANUP DELAYED", DISCUSSION OF FUNDING OF SUPERFUND BEING DELAYED AND THE IMPACT ON MILL CREEK RESIDENTS.
AUTHOR: SIMPSON, RICH
ORGANIZATION: THE MONTANA STANDARD
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

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FILE: 2021712          NUMBER: 300068          DATE: 05/02/86          PAGES: 1
TITLE/SUBJECT: "KIDS CAN MOVE WHILE EPA MULLS MILL CREEK", DISCUSSION OF
               RELOCATION OF FAMILIES WITH YOUNG CHILDREN.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712          NUMBER: 300069          DATE: 05/30/86          PAGES: 1
TITLE/SUBJECT: "MILL CREEK MOVING MAY START NEXT WEEK", DISCUSSION OF TEMP-
               ORARY RELOCATION; DISCUSSIONS BETWEEN FEMA AND MILL CREEK
               RESIDENTS.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712          NUMBER: 300070          DATE: 07/10/86          PAGES: 1
TITLE/SUBJECT: "MILL CREEK RESIDENTS PONDER LEGAL ACTION", DISCUSSION OF
               THE MILL CREEK RESIDENTS ASSOCIATION OBTAINING LEGAL
               REPRESENTATION.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712          NUMBER: 300071          DATE: 07/10/86          PAGES: 1
TITLE/SUBJECT: "MILL CREEK RESIDENTS PONDER LEGAL ACTION", DISCUSSION OF
               MILL CREEK RESIDENTS ASSOCIATION OBTAINING LEGAL REPRESEN-
               TATION.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712          NUMBER: 300072          DATE: 09/19/85          PAGES: 1
TITLE/SUBJECT: AGENDA FOR EPA PORTION OF THE ANACONDA ENVIRONMENTAL
               ADVISORY COUNCIL MEETING OF 09/19/85.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300073          DATE: 00/00/00          PAGES: 2
TITLE/SUBJECT: ANACONDA SUPERFUND SITE REPORT ON PRESENT STATUS AND COMPLE-
               TION DATE OF THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712 NUMBER: 300074 DATE: 08/15/85 PAGES: 2
TITLE/SUBJECT: EPA SUMMARY OF ANACONDA - DEER LODGE COUNTY ENVIRONMENTAL COUNCIL MEETING OF 08/15/85. TOPICS DISCUSSED WERE RI/FS UPDATE, SOILS DATA REPORT, COMMUNITY RELATIONS, ON SCENE MONITOR REPORT, AND PUBLIC COMMENT.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300075 DATE: 09/19/85 PAGES: 1
TITLE/SUBJECT: AGENDA FOR THE EPA PORTION OF THE ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING OF 09/19/85.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300076 DATE: 07/29/85 E PAGES: 1
TITLE/SUBJECT: SUMMARY REPORT ON-SITE MONITOR ACTIVITIES ANACONDA SMELTER DEMOLITION PROJECT 07/29/85 - 08/30/85.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300077 DATE: 10/17/85 PAGES: 1
TITLE/SUBJECT: EPA SUMMARY OF ANACONDA - DEER LODGE COUNTY ENVIRONMENTAL COUNCIL MEETING OF 10/17/85, TOPICS DISCUSSED INCLUDE RI/FS UPDATE, AND OVERVIEW OF SURFACE WATER.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300078 DATE: 07/09/85 PAGES: 3
TITLE/SUBJECT: "SUMMARY REPORT ON PRESS BRIEFING AND PUBLIC MEETING REGARDING THE WINTER URINARY ARSENIC STUDY, ANACONDA, MONTANA, MARCH 1985." INCLUDES LIST OF QUESTIONS ASKED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300079 DATE: 12/10/85 PAGES: 11
TITLE/SUBJECT: EPA SUMMARY OF ANACONDA - DEER LODGE COUNTY ENVIRONMENTAL COUNCIL MEETING OF 12/10/85.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

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FILE: 2021712         NUMBER: 300080        DATE: 06/20/85         PAGES: 1
TITLE/SUBJECT: AGENDA FOR EPA PUBLIC MEETING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712         NUMBER: 300081        DATE: 06/20/85         PAGES: 2
TITLE/SUBJECT: FACT SHEET FOR ANACONDA SMELTER SUPERFUND SITE. SPECIFIC
               TOPICS DISCUSSED INCLUDE WINTER URINE ARSENIC STUDY AND EPA
               PLANS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712         NUMBER: 300082        DATE: 06/20/85         PAGES: 1
TITLE/SUBJECT: NOTIFICATION OF PUBLIC MEETING TO DISCUSS FINDINGS OF THE
               WINTER ARSENIC URINE STUDY AND FUTURE ACTIVITIES.
       AUTHOR: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 2021712         NUMBER: 300083        DATE: 06/00/85         PAGES: 3
TITLE/SUBJECT: "SUPERFUND PROGRAM FACT SHEET", FOR THE ANACONDA SMELTER
               SITE.  DISCUSSES THE METHOD BY WHICH THE SUPERFUND PROCESS
               WORKS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712         NUMBER: 300084        DATE: 06/21/85         PAGES: 1
TITLE/SUBJECT: "WETLANDS SOLUTION TO SEWER SNAG LONG TIME AWAY", DISCUSSION
               OF DUCKS UNLIMITED PROPOSAL FOR WETLAND USE OF MILL CREEK
               SITE.
       AUTHOR: SIMPSON, RICH
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712         NUMBER: 300085        DATE: 06/21/85         PAGES: 1
TITLE/SUBJECT: "ANACONDA CHILDREN PASS ARSENIC TESTS", DISCUSSION OF
               RESULTS OF CDC SURVEY.
       AUTHOR: NOT INDICATED
 ORGANIZATION: THE MONTANA STANDARD
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021712 NUMBER: 300086 DATE: 06/21/85 PAGES: 2
TITLE/SUBJECT: "ELEVATED ARSENIC LEVELS FOUND IN MILL CREEK CHILDREN", DISCUSSION OF CDC STUDY FINDINGS AND FUTURE ACTIONS.
AUTHOR: MUNDSTOCK, WALTER
ORGANIZATION: THE ANACONDA LEADER
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE

FILE: 2021712 NUMBER: 300087 DATE: 11/21/85 PAGES: 3
TITLE/SUBJECT: EPA SUMMARY OF THE ANACONDA - DEER LODGE COUNTY ENVIRONMENTAL COUNCIL MEETING TOPICS ADDRESSED WERE: REVIEW OF JULY URINARY ARSENIC STUDY, REVIEW OF RI/FS PROCESS, ON SCENE MONITOR REPORT, AND PUBLIC COMMENT.
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300088 DATE: 08/15/85 PAGES: 2
TITLE/SUBJECT: EPA SUMMARY OF THE ANACONDA - DEER LODGE COUNTY ENVIRONMENTAL COUNCIL MEETING. TOPICS ADDRESSED INCLUDE RI/FS UPDATE, SOILS DATA REPORT, COMMUNITY RELATIONS, ON SCENE MONITOR REPORT, AND PUBLIC COMMENT.
AUTHOR: NOT INDICATED
ORGANIZATION: ANACONDA - DEER LODGE COUNTY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES

FILE: 2021712 NUMBER: 300089 DATE: 06/01/85 E PAGES: 1
TITLE/SUBJECT: ENVIRONMENTAL INTERVENTION PILOT STUDY FOR MILL CREEK - ANACONDA, MONTANA, ADDRESSES METHODS TO REDUCE ARSENIC EXPOSURE IN THE HOME.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300090 DATE: 01/16/86 PAGES: 1
TITLE/SUBJECT: NOTICE OF SPECIAL MEETING FOR MILL CREEK RESIDENTS TO DISCUSS TEMPORARY RELOCATION. AGENDA FOR EPA PORTION OF THE ANACONDA ENVIRONMENTAL ADVISORY COUNCIL MEETING.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII, MONTANA OFFICE
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300091 DATE: 01/16/86 PAGES: 4
TITLE/SUBJECT: FACT SHEET ON ANACONDA SMELTER SUPERFUND SITE TOPICS ADDRESSED INCLUDE EPA/AMC FLUE DUST CONSENT ORDER, DISCUSSION OF TEMPORARY RELOCATION OF MILL CREEK RESIDENTS, SPRING CLEAN UP, AND IMPROVED HOUSEKEEPING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021712          NUMBER: 300092          DATE: 01/16/86         PAGES: 9
TITLE/SUBJECT: EPA SUMMARY OF MEETING WITH MILL CREEK RESIDENTS AND A
               PUBLIC MEETING ON THE MILL CREEK ACTION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300093          DATE: 01/28/86         PAGES: 1
TITLE/SUBJECT: SUMMARY OF SPECIAL EAC MEETING TO REVIEW THE INFORMATION ON
               MILL CREEK PROVIDED AT THE JANUARY 16, 1986 PUBLIC MEETING
               AND TO DISCUSS MEASURES THE COUNTY/COMMITTEE SHOULD TAKE
               IN THIS PROCESS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA - DEER LODGE COUNTY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300094          DATE: 03/27/86         PAGES: 1
TITLE/SUBJECT: AGENDA FOR EPA PORTION OF THE ANACONDA ENVIRONMENTAL
               ADVISORY MEETING OF MARCH 27, 1986.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300095          DATE: 05/01/86         PAGES: 16
TITLE/SUBJECT: SUMMARY OF PRIVATE AND PUBLIC MEETINGS BETWEEN EPA AND MILL
               CREEK RESIDENTS AND THE PRESS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
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FILE: 2021712          NUMBER: 300096          DATE: 05/21/86 E       PAGES: 2
TITLE/SUBJECT: MILL CREEK RESIDENTS ASSOCIATION MEETING OF MAY 28, 1986, AT
               WHICH DEMANDS WERE MADE FOR RESIDENTS THAT WANT TO MOVE,
               RESIDENTS THAT WANT TO STAY, AND RENTERS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------

FILE: 2021712          NUMBER: 300097          DATE: 00/00/00         PAGES: 1
TITLE/SUBJECT: MAP DEPICTING STATUS OF OWNER OR RENTER, AND DECISION TO
               STAY, MOVE, OR UNDECIDED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MAP/DRAWING/DIAGRAM
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FILE: 2021712         NUMBER: 300098        DATE: 00/00/00        PAGES: 1
TITLE/SUBJECT: MAP OF MILL CREEK AREA DEPICTING STATUS OF RESIDENTS AS TO
               DECISION TO STAY, MOVE, UNDECIDED, OR RENTAL WHO WANTS TO
               MOVE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MAP/DRAWING/DIAGRAM
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FILE: 2021712         NUMBER: 300099        DATE: 05/21/86 E      PAGES: 2
TITLE/SUBJECT: MILL CREEK RESIDENTS ASSOCIATION MEETING OF MAY 28, 1986, AT
               WHICH DEMANDS WERE MADE FOR RESIDENTS WHO WANT TO MOVE,
               RESIDENTS WHO WANT TO STAY, AND RENTERS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: MILL CREEK RESIDENTS ASSOCIATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------

FILE: 2021712         NUMBER: 300100        DATE: 00/00/00        PAGES: 1
TITLE/SUBJECT: MAP DEPICTING RESIDENTS OF MILL CREEK AREA AND STATUS OF
               DECISION TO STAY, MOVE, RENTER, UNDECIDED, OR RENTAL WHO
               WANTS TO MOVE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MAP/DRAWING/DIAGRAM
--------------------------------------------------------------------------

FILE: 2021712         NUMBER: 300101        DATE: 01/01/85 E      PAGES: 44
TITLE/SUBJECT: "OPERATING INSTRUCTION X-MET 840 PORTABLE XRF ANALYZER,
               REVISION 1, MARCH 1985"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712         NUMBER: 300102        DATE: 02/20/86        PAGES: 9
TITLE/SUBJECT: PHOTOGRAPHS AND ASSOCIATED DESCRIPTIONS OF X-MET 840 AND
               RELATED INSTRUMENTATION AND PROCEDURES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: PHOTO/SLIDE
--------------------------------------------------------------------------

FILE: 2021712         NUMBER: 300103        DATE: 04/29/86 E      PAGES: 2
TITLE/SUBJECT: POLLUTION REPORT NO. 1 INCLUDES DISCUSSION OF SITUATION,
               ACTION TAKEN, FUTURE PLANS, AND FISCAL AND CASE PENDING
               INFORMATION.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT
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FILE: 2021712 NUMBER: 300104 DATE: 05/29/00 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 2 INCLUDES DISCUSSIONS ON SITUATION ACTIONS TAKEN, FUTURE ACTIONS AND FISCAL AND CASE PENDING INFORMATION.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300105 DATE: 06/09/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 3, WHICH INCLUDES DISCUSSIONS ON FEMA AND CDC INTERVIEWS, DUST SUPPRESSION ACTIVITIES, RED CROSS AND STATE DEPARTMENT COUNSELING AS WELL AS FUTURE PLANS, FISCAL AND CASE PENDING INFORMATION.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300106 DATE: 06/26/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 4, WHICH INCLUDES DISCUSSIONS ABOUT FEMA TEAM REPLACEMENTS, FEMA REVIEW OF INTERVIEWS, CDC HEALTH ASSESSMENT, AMENDMENT TO ACTION MEMORANDUM AS WELL AS INFORMATION ON FISCAL AND CASE PENDING.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300107 DATE: 07/08/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 5, WHICH INCLUDES DISCUSSIONS ON SIGNING OF THE AMENDED ACTION MEMO, ATTACHMENT B OF THE IAG, RESIDENTS ARRANGING THEIR OWN MOVES, LETTERS AND CHECKS SENT TO RESIDENTS, CONTINUED CONTACT TO MINIMIZE CONFUSION, AND INFORMATION ON FUTURE PLANS AND CASE PENDING.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300108 DATE: 07/23/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 6, WHICH INCLUDES DISCUSSIONS ON PUBLIC MEETINGS, MOVING EXPENSE CHECKS, RESIDENTS APPROVED FOR RELOCATION, PROBLEMS WITH OIL COATING APPLIED BY THE COUNTY HIGHWAY DEPARTMENT AS WELL AS INFORMATION ABOUT FUTURE PLANS AND CASE PENDING.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300109 DATE: 08/07/86 E PAGES: 1
TITLE/SUBJECT: POLREP NO. 7, INCLUDES DISCUSSIONS ON FEMA STATUS REPORT ON TEMP. RELOCATION, AUTH. TO RELOCATE, AVERAGE MOVING & RENTAL EXPENSES, BILLS FOR CLEANING HOUSEHOLDS, REPRESENTATION BY LAWYERS, RESPONSES TO QUESTIONS RAISED AT 7/9 MEETING, APPROVAL OF THE AMENDED IAG, & FUTURE PLANS & CASE INFORMATION.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300110 DATE: 08/05/86 PAGES: 1
TITLE/SUBJECT: FEDERAL EMERGENCY MANAGEMENT AGENCY SCORE BOARD, REPORT NO. 3, FOR TEMPORARY RELOCATION OF MILL CREEK RESIDENTS.
AUTHOR: NOT INDICATED
ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS

FILE: 2021712 NUMBER: 300111 DATE: 08/20/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 8, WHICH INCLUDES DISCUSSIONS ON RELOCATION, BREAK IN TO ONE HOME, ROAD OIL SITUATION, SECURITY AND FEMA BEING ON SITE; ALSO INFORMATION ABOUT FUTURE ACTIONS AND CASE PENDING IS INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300112 DATE: 10/09/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 9, WHICH INCLUDES DISCUSSIONS ON: RELOCATION, FEMA/EPA INTERAGENCY AGREEMENT, WINTERIZATION OF VACATED RESIDENCES, RENT CHECKS FOR SECOND THREE-MONTH PERIOD, AND RESIDENTS MEETINGS; ALSO INFORMATION ABOUT FUTURE PLANS AND CASE PENDING IS INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300113 DATE: 11/25/86 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 10, WHICH INCLUDES DISCUSSIONS ON RELOCATION, COMPLETION OF THE DUST SUPPRESSION APPLICATION, FEMA EXPENDITURES AS WELL AS INFORMATION ON FUTURE PLANS AND CASE PENDING ARE INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300114 DATE: 05/12/87 E PAGES: 1
TITLE/SUBJECT: POLLUTION REPORT NO. 11, WHICH INCLUDES DISCUSSIONS ON RELOCATION ASSISTANCE, FEMA EXPENDITURES, EPA/FEMA AMENDED INTERAGENCY AGREEMENTS, AS WELL AS INFORMATION ON FUTURE PLANS, FISCAL AND CASE PENDS IS INCLUDED.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: POLLUTION REPORT

FILE: 2021712 NUMBER: 300115 DATE: 00/00/84 PAGES: 122
TITLE/SUBJECT: "1984 DUST ABATEMENT INFORMATION", INCLUDES SECTIONS ON PROCUREMENT INFORMATION, PRODUCT CHARACTERISTICS ESTIMATING PROCEDURE, SAMPLING AND TESTING, AND TECHNICAL LITERATURE.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021712          NUMBER: 300116          DATE: 02/07/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF GORDON H. BRANDENBURGER
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300117          DATE: 02/07/86          PAGES: 7
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF GERALD B. PATTERSON
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300118          DATE: 02/07/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREFK SURVEY, AND VISUAL
               OBSERVATIONS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
-----------------------------------------------------------------------------
FILE: 2021712          NUMBER: 300119          DATE: 02/07/86          PAGES: 9
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF ALEX LA TRAY, SR.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
-----------------------------------------------------------------------------
FILE: 2021712          NUMBER: 300120          DATE: 02/07/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF SYLVESTER AND HELEN HAUS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712          NUMBER: 300121          DATE: 02/06/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712 NUMBER: 300122 DATE: 02/07/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF WILLIAM H. ANDERSON.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300123 DATE: 02/07/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF ARLENE BEAUSOLEIL.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300124 DATE: 02/08/86 PAGES: 9
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF HARRY H. PIESKE.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300125 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300126 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF JAMES M. BACON.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300127 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF LAWRENCE HAUS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300128 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300129 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF IONE DUDACK.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300130 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF EVELYN MURRAY.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300131 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF JOSEPH K. SMITH.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300132 DATE: 02/08/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300132A DATE: 00/00/00 PAGES: 6
TITLE/SUBJECT: VISUAL OBSERVATIONS REPORT FOR THE MILL CREEK RESIDENCE OF HAROLD AND MERNICE WOLFE. INCLUDES MAPS OF LOCATIONS OF MILL CREEK YARDS AND RESULTS OF MISCELLANEOUS AND YARD SAMPLING FOR ARSENIC IN SOIL.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021712           NUMBER: 300133          DATE: 02/09/86          PAGES: 12
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF MERNICE WOLFE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300134          DATE: 02/09/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF DON DOUCET.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300135          DATE: 02/09/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300136          DATE: 02/09/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF BRUCE AND KATHY HAUS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300137          DATE: 02/09/86          PAGES: 6
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF MARTY J. BILLQUIST.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300138          DATE: 02/09/86          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
               PROPERTY OF OLOF A. AND AVALON F. BILLQUIST.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712 NUMBER: 300139 DATE: 02/09/86 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF HOWARD HAMEL.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300140 DATE: 03/20/86 PAGES: 9
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF MRS. WHITEHEAD.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300141 DATE: 03/20/86 PAGES: 7
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF ALZIE LIVELY.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300142 DATE: 04/08/86 PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF A SUPERFUND ACCESS AGREEMENT SIGNED BY CLARENCE DAHL, JR.
AUTHOR: MCKEON, MICHAEL J.
ORGANIZATION: MICHAEL J. MCKEON, P.C.
ADDRESSEE: NICHOLS, FLOYD D.
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: LETTER

FILE: 2021712 NUMBER: 300143 DATE: 04/08/86 PAGES: 9
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
PROPERTY OF CLARENCE DAHL, JR.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 2021712 NUMBER: 300144 DATE: 00/00/00 PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
AUTHOR: NOT INDICATED
ORGANIZATION: NOT INDICATED
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

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FILE: 2021712           NUMBER: 300145          DATE: 00/00/00          PAGES: 8
TITLE/SUBJECT: SUPERFUND ACCESS AGREEMENT, MILL CREEK SURVEY, AND VISUAL
               OBSERVATIONS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300146          DATE: 00/00/00          PAGES: 9
TITLE/SUBJECT: MILL CREEK SURVEY, AND VISUAL OBSERVATIONS.
               PROPERTY OF AVALON BILLQUIST.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300147          DATE: 08/28/86          PAGES: 2
TITLE/SUBJECT: OUTLINING THE PROPOSED ARRANGEMENT FOR ACCOMODATING THE
               DESIRE EXPRESSED BY SOME OF THE MILL CREEK, MONTANA CLIENTS
               TO MINIMIZE THE PUBLIC AIRING OF INFORMATION LINKING
               SPECIFIC HOMEOWNERS AND ADDRESSES TO SPECIFIC LEVELS OF
               HAZARDOUS SUBSTANCES DETECTED ON THEIR PROPERTY.
       AUTHOR: CALLAWAY, REX
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
    ADDRESSEE: DAYTON, RAY J.
 ORGANIZATION: KNIGHT, DAHOOD, McLEAN & EVERETT
DOCUMENT TYPE: LETTER
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FILE: 2021712           NUMBER: 300148          DATE: 00/00/00          PAGES: 1
TITLE/SUBJECT: CONSENT FOR RELEASE OF INFORMATION FORM (BLANK).
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300148A         DATE: 08/26/86          PAGES: 1
TITLE/SUBJECT: CONFIRMING THAT ALL RI/FS REPORTS AND SUBSEQUENT REPORTS
               WILL BE WRITTEN IN SUCH A WAY THAT THE REPORT DOES NOT
               SPECIFICALLY IDENTIFY SAMPLING LOCATIONS BY NAME AND
               ADDRESS OF HOUSEHOLDS.
       AUTHOR: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: CALLAWAY, REX
 ORGANIZATION: USEPA-VIII, OFFICE OF REGIONAL COUNSEL
DOCUMENT TYPE: LETTER
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FILE: 2021712           NUMBER: 3001483         DATE: 09/09/86          PAGES: 1
TITLE/SUBJECT: CONSENT FOR RELEASE OF INFORMATION SIGNED BY RAY J. DAYTON,
               AND NOTARIZED BY EDWARD G. BEAUDETTE.
       AUTHOR: DAYTON, RAY J.
 ORGANIZATION: KNIGHT, DAHOOD, McLEAN & EVERETT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021712           NUMBER: 300148C            DATE: 00/00/00           PAGES: 1
TITLE/SUBJECT: A LIST OF THE MILL CREEK RESIDENTS REPRESENTED BY RAY J.
               DAYTON.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------------
FILE: 2021712           NUMBER: 300148D            DATE: 10/06/86           PAGES: 1
TITLE/SUBJECT: CONSENT FOR RELEASE OF INFORMATION SIGNED BY RAY J. DAYTON,
               AND NOTARIZED BY NANCY L. DAHOOD.
       AUTHOR: DAYTON, RAY J.
 ORGANIZATION: KNIGHT, DAHOOD, McLEAN & EVERETT
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------------
FILE: 2021712           NUMBER: 300149             DATE: 03/07/86           PAGES: 3
TITLE/SUBJECT: NOTIFICATION OF TAT MEMBERS PERFORMING QUANTITIVE ANALYSIS
               ON SOIL SAMPLES COLLECTED IN THE TOWN OF MILL CREEK UTILI-
               ZING AN X-MET 840 X-RAY FLUORESENCE ANALYZER IN A LABORAT-
               ORY AT MONTANA COLLEGE OF MINERAL SCIENCE & TECHNOLOGY.
       AUTHOR: STEVENSON, PETER
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NICHOLS, FLOYD D.
 ORGANIZATION: ROY F. WESTON, INC./SPER
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------------
FILE: 2021712           NUMBER: 300150             DATE: 02/21/86 E         PAGES: 9
TITLE/SUBJECT: SAMPLE PREPARATION AND DESCRIPTION FOR 175 SAMPLES TAKEN
               FROM THE MILL CREEK SITE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------------
FILE: 2021712           NUMBER: 300151             DATE: 09/19/86           PAGES: 2
TITLE/SUBJECT: OUTLINE OF TAT ACTIONS PERTAINING TO THE MILL CREEK, MT SITE
               FROM 01/86 TO 09/86.  AFTER SOIL SAMPLES WERE TAKEN AND
               ANALYZED BY THE X-MET, TAT DRAFTED AN ACTION MEMO TO FURTHER
               ASSIST IN THE REMOVAL OF FAMILIES WITH CHILDREN 6 AND UNDER.
       AUTHOR: ALMQUIST, GERALD L.
 ORGANIZATION: ROY F. WESTON, INC./SPER
    ADDRESSEE: JONES, RICHARD
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
------------------------------------------------------------------------------------
FILE: 2021712           NUMBER: 300152             DATE: 05/00/86           PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF A SUMMARY OF SAMPLING ACTIVITIES CONDUCTED AT
               MILL CREEK.  EACH OF THE THREE SAMPLING EVENTS THE FOLLOWING
               INFORMATION IS PROVIDED:  1) DATES, 2) HINDRANCES, 3) EQUIP-
               MENT AND DECONTAMINATION PROCEDURES, 4) DESCRIPTION OF LOC-
               ATION, AND 5) SAMPLE DEPTHS.
       AUTHOR: WHITTENHAGEN, DIANE K.
 ORGANIZATION: ROY F. WESTON, INC./SPER
    ADDRESSEE: NICHOLS, FLOYD D.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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==============================================================================
FILE: 2021712           NUMBER: 300153          DATE: 00/00/00          PAGES: 8
TITLE/SUBJECT: SAMPLING LOGBOOK (04/22/86 - 04/24/86).
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LOG/DAILY REPORT
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FILE: 2021712           NUMBER: 300154          DATE: 02/17/86 E        PAGES: 48
TITLE/SUBJECT: HANDWRITTEN NOTES ON SAMPLING LOCATIONS, DATA, AND ANALYSES
               PERFORMED BETWEEN 2/17 AND 2/19/86.
               SAMPLFS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES
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FILE: 2021712           NUMBER: 300155          DATE: 02/17/86 E        PAGES: 51
TITLE/SUBJECT: LISTING OF RESIDENTS IN MILL CREEK IN RELATION TO SAMPLES
               TAKEN, ATTACHED IS SKETCH OF RESIDENCES TO HELP EXPLAIN
               SAMPLE LOCATIONS.  ALSO INCLUDED IS SEVERAL EXAMPLES OF
               LETTERS DESCRIBING SAMPLING ANALYSES TO THE RESIDENTS
               INVOLVED.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: HANDWRITTEN NOTES
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FILE: 2021712           NUMBER: 300155B         DATE: 03/20/86E         PAGES: 3
TITLE/SUBJECT: RESULTS AND LOCATIONS OF SAMPLING ON PROPERTY OF ALZIE
               LIVELY. SAMPLES 185 - 188.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712           NUMBER: 300155C         DATE: 03/20/86E         PAGES: 2
TITLE/SUBJECT: LOCATIONS AND RESULTS OF SAMPLING ON PROPERTY OF WILLIAM
               WHITEHEAD. SAMPLES 189 - 194.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712           NUMBER: 300155D         DATE: 03/20/86E         PAGES: 2
TITLE/SUBJECT: SAMPLING LOCATIONS AND RESULTS. PROPERTY OF CLARENCE DAHL
               AND BEVERLY FABOR. SAMPLES 176 - 184.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021712            NUMBER: 300155F          DATE: 00/00/00         PAGES: 5
TITLE/SUBJECT: COVER LETTER FOR MILL CREEK RESIDENTS FOR TRANSMITTAL OF
               SAMPLING LOCATIONS AND RESULTS.
       AUTHOR: NICHOLS, FLOYD D.
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: CITIZEN(S) OF MILL CREEK, MONTANA
DOCUMENT TYPE: LETTER
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300155G          DATE: 02/17/86E        PAGES: 1
TITLE/SUBJECT: SAMPLING LOCATIONS AND RESULTS FROM PATTERSON PROPERTY.
               SAMPLES 1 - 5B.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300155H          DATE: 01/17/86         PAGES: 1
TITLE/SUBJECT: SAMPLING LOCATIONS AND RESULTS FROM JUDD PROPERTY.
               SAMPLES 10 - 12.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LETTER
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300156           DATE: 04/18/86         PAGES: 1
TITLE/SUBJECT: CHAIN OF CUSTODY RECORD FOR SAMPLING CONDUCTED AT THE MILL
               CREEK SITE BETWEEEN 2/17 AND 2/19/86.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300157           DATE: 02/25/86         PAGES: 2
TITLE/SUBJECT: TWO COPIES OF CHAIN OF CUSTODY RECORD FOR SAMPLING CONDUCTED
               AT THE MILL CREEK SITE BETWEEN 2/17 AND 2/19/86.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300158           DATE: 05/16/86         PAGES: 10
TITLE/SUBJECT: DAILY LOG OF SAMPLES RUN BETWEEN 5/15-5/12/86 ON X-MET FOR
               THE MILL CREEK SITE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: LOG/DAILY REPORT
------------------------------------------------------------------------------
FILE: 2021712            NUMBER: 300159           DATE: 04/23/86         PAGES: 123
TITLE/SUBJECT: ENDANGERMENT ASSESSMENT:  MILL CREEK, MONTANA ANACONDA
               SMELTER SITE, DOCUMENT CONTROL NO. 228-WP1-EP-CKHY-1,
               CONTRACT NO. 68-01-6929, WORK ASSIGNMENT NO. 131-8L18.1.
       AUTHOR: NOT INDICATED
 ORGANIZATION: CLEMENT & ASSOCIATES, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: MISCELLANEOUS
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                          ANACONDA SMELTER SITE
                   MILL CREEK, MONTANA OPERABLE UNIT
10/01/87                ADMINISTRATIVE RECORD INDEX                    Page:
=========================================================================
FILE: 2021714          NUMBER: 100001         DATE: 06/23/87        PAGES: 4
TITLE/SUBJECT: TRANSMITTAL OF A REPORT REGARDING ANALYSIS OF RELOCATION
               PROJECTS FOR EPA:  ISSUES AND PROBLEMS RELATED TO MILL
               CREEK, MONTANA. (DOCUMENT CONTROL NO. 228-TS1-EP-EJMP)
       AUTHOR: ERICSON, JAMES W.
 ORGANIZATION: CAMP DRESSER & McKEE, INC. (CDM)
    ADDRESSEE: BISHOP, MIKE
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021714          NUMBER: 100002         DATE: 10/21/86        PAGES: 1
TITLE/SUBJECT: DISCUSSES RESPONSE TO MIKE BISHOP'S REQUEST TO CHARLES
               ROBINSON TO REVIEW THE COSTS RELATED TO PERMANENTLY RELOCAT-
               ING THE RESIDENTS OF MILL CREEK MONTANA, AS CONTAINED IN THE
               DRAFT RI/FS. CONTAINS TOTAL ESTIMATED COSTS FOR ALTERNATIVE
               #1 AND ALTERNATIVE #9
       AUTHOR: WINKLE, JOE D.
 ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
    ADDRESSEE: WARDELL, JOHN
 ORGANIZATION: USEPA-VIII, MONTANA OFFICE
DOCUMENT TYPE: LETTER
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FILE: 2021714          NUMBER: 100003         DATE: 00/00/00        PAGES: 4
TITLE/SUBJECT: BROCHURE ENTITLED: SUPERFUND RELOCATION ASSISTANCE
               CONTAINS AN OVERVIEW OF FEMA'S ASSISTANCE AND ROLE IN
               TEMPORARY AND PERMANENT RELOCATION
       AUTHOR: NOT INDICATED
 ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021714          NUMBER: 100004         DATE: 00/00/00        PAGES: 4
TITLE/SUBJECT: BROCHURE ENTITLED: TEMPORARY RELOCATION ASSISTANCE
               CONTAINS FEMA INFORMATION TO HELP CLARIFY THE REGULATIONS
               AFFECTING A PERSON'S STAY IN TEMPORARY HOUSING IN THE FORM
               OF QUESTION AND ANSWERS
       AUTHOR: NOT INDICATED
 ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 202172           NUMBER: 300049         DATE: 01/16/86        PAGES: 4
TITLE/SUBJECT: FACT SHEET ON ANACONDA SMELTER SUPERFUND SITE ADDRESSING
               EPA/AMC FLUE DUST CONSENT ORDER, TEMPORARY RELOCATION OF
               MILL CREEK RESIDENTS, SPRING CLEANUP, AND IMPROVED HOUSE-
               KEEPING.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777         NUMBER: 100001         DATE: 07/09/87E       PAGES: 9
TITLE/SUBJECT: REGARDING INTERIM GUIDANCE ON COMPLIANCE WITH APPLICABLE OR
               RELEVANT AND APPROPRIATE REQUIREMENTS.  PROVIDES GUIDANCE
               ON COMPLIANCE WITH OTHER FEDERAL AND STATE ENVIRONMENTAL
               LAWS IN CONDUCTING CERCLA REMEDIAL ACTIONS.
       AUTHOR: PORTER, J. WINSTON
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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                         ANACONDA SMELTER SITE
                  MILL CREEK, MONTANA OPERABLE UNIT
10/01/87               ADMINISTRATIVE RECORD INDEX                    Page: 16
==============================================================================
FILE: 77777777        NUMBER: 100002          DATE: 06/14/85        PAGES: 25
TITLE/SUBJECT: [FEMA]  REGARDING IMPLEMENTATION OF EPA/FEMA MEMORANDUM OF
               UNDERSTANDING (MOU) ON CERCLA RELOCATIONS.  ATTACHED IS THE
               SIGNED MOU BETWEEN FEMA & EPA DATED 3/29/85, ATTACHMENTS A
               & B ON TEMPORARY AND PERMANENT RELOCATION, AND INSTRUCTIONS
               FOR FILLING OUT AN INTERAGENCY AGREEMENT/AMENDMENT.
       AUTHOR: MCGRAW, JACK W.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100003          DATE: 08/08/85E       PAGES: 12
TITLE/SUBJECT: REGARDING POLICY ON FLOODPLAINS AND WETLAND ASSESSMENTS FOR
               CERCLA ACTIONS.  ATTACHED IS A MEMORANDUM DATED 11/14/83
               REGARDING FLOODPLAIN REQUIREMENTS TO WILLIAM N. HEDEMAN, JR.
               OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, FROM DOUGLAS A.
               COHEN, POLICY ANALYSIS BRANCH.
       AUTHOR: HEDEMAN, WILLIAM N., JR.
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100004          DATE: 11/15/83        PAGES: 2
TITLE/SUBJECT: REGARDING RCRA PERMITS FOR SUPERFUND SITES, AND COORDINATION
               AMONG RCRA, CERCLA AND OTHER ENVIRONMENTAL STATUTES.
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: SERAYDARIAN, HARRY
 ORGANIZATION: USEPA, REGION IX
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100005          DATE: 10/01/86        PAGES: 20
TITLE/SUBJECT: "36 CFR PART 800: PROTECTION OF HISTORIC PORPERTIES",
               REGULATIONS OF THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
               GOVERNING THE SECTION 106 REVIEW PROCESS.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ADVISORY COUNCIL ON HISTORIC PRESERVATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777        NUMBER: 100006          DATE: 08/20/84        PAGES: 118
TITLE/SUBJECT: TRANSMITTAL OF SUPERFUND REMOVAL PROCEDURES-REVISION
               NUMBER TWO WHICH SUPERCEDES THE SUPERFUND REMOVAL GUIDANCE
               REVISION NUMBER ONE.
       AUTHOR: HEDEMAN, WILLIAM N., JR.
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100007          DATE: 09/08/84        PAGES: 36
TITLE/SUBJECT: [AO]  "GUIDANCE MEMORANDUM ON USE AND ISSUANCE OF
               ADMINISTRATIVE ORDERS UNDER SECTION 106(A) OF CERCLA."
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100008          DATE: 05/29/87         PAGES: 8
TITLE/SUBJECT: [AR]  REGARDING ADMINISTRATIVE RECORDS FOR DECISIONS OF
               CERCLA RESPONSE ACTIONS.  INCLUDES A LIST OF DOCUMENTS FOR
               REMOVAL ACTIONS AND REMEDIAL ACTIONS WHICH SHOULD BE
               INCLUDED IN THE ADMINISTRATIVE RECORD.
       AUTHOR: LUCERO, GENE A.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DIRECTORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100009          DATE: 04/18/86         PAGES: 7
TITLE/SUBJECT: [ARA]  TRANSMITTAL OF THE MILLCREEK MEMORANDUM DATED 3/24/86
               REGARDING RECOMMENDATIONS FOR GROUND WATER REMEDIATION AT
               THE MILLCREEK, PA SITE FROM J. WINSTON PORTER, ASSISTANT
               ADMINISTRATOR, TO JAMES SEIF, REGIONAL ADMINISTRATOR,
               REGION III.
       AUTHOR: MLAY, MARIAN
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DIRECTORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100010          DATE: 04/02/85         PAGES: 12
TITLE/SUBJECT: [ATSDR]  "MEMORANDUM OF UNDERSTANDING BETWEEN THE AGENCY FOR
               TOXIC SUBSTANCES AND DISEASE REGISTRY AND THE UNITED STATES
               ENVIRONMENTAL PROTECTION AGENCY."  SIGNED BY AUTHOR AND AN
               INDIVIDUAL (ILLEGIBLE NAME) ON BEHALF OF THE AGENCY FOR
               TOXIC SUBSTANCES AND DISEASE REGISTRY.
       AUTHOR. MCGRAW, JACK W.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100011          DATE: 07/14/86         PAGES: 3
TITLE/SUBJECT: [ATSDR]  REGARDING THE ROLE OF ATSDR IN EPA PROGRAMS.
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100012          DATE: 05/14/87         PAGES: 25
TITLE/SUBJECT: [ATSDR]  TRANSMITTAL OF  FINAL GUIDANCE FOR THE COORDINATION
               OF ATSDR HEALTH ASSESSMENT ACTIVITIES WITH THE SUPERFUND
               REMEDIAL PROCESS.  OSWER DIRECTIVE 9295.4-02.  (REPORT
               DATED 4/22/87)
       AUTHOR: PORTER, J. WINSTON
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100013          DATE: 09/00/83         PAGES: 146
TITLE/SUBJECT: [CR]  "COMMUNITY RELATIONS IN SUPERFUND:  A HANDBOOK,
               INTERIM VERSION".  PREPARED UNDER CONTRACT # 68-02-3663.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ICF, INCORPORATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777         NUMBER: 100014          DATE: 03/22/85          PAGES: 23
TITLE/SUBJECT: [CR]  REGARDING COMMUNITY RELATIONS ACTIVITIES AT SUPERFUND
               ENFORCEMENT SITES -- INTERIM GUIDANCE.  GUIDANCE DOCUMENT
               ATTACHED.
       AUTHOR: MCGRAW, JACK W.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100015          DATE: 08/23/85          PAGES: 3
TITLE/SUBJECT: [CR]  REGARDING COMMUNITY RELATIONS ACTIVITIES AT SUPERFUND
               ENFORCEMENT SITES, USED TO CLARIFY POLICIES AND PROCEDURES
               INCLUDED IN THE MARCH 22, 1985 INTERIM FINAL POLICY ON
               COMMUNITY RELATIONS ACTIVITIES AT SUPERFUND ENFORCEMENT
               SITES.
       AUTHOR: LUCERO, GENE A.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DIRECTORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100016          DATE: 11/21/85          PAGES: 7
TITLE/SUBJECT: [CR]  TRANSMITTAL OF EPA POLICY ON PUBLICIZING ENFORCEMENT
               ACTIVITIES.
       AUTHOR: PRICE, COURTNEY M.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100017          DATE: 04/14/86          PAGES: 2
TITLE/SUBJECT: [CR]  NOTES ON A MEETING HELD APRIL 8, 1986 CONCERNING
               SUPERFUND PUBLIC MEETINGS.
       AUTHOR: SANDERS, DORIS E.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEETING NOTES
--------------------------------------------------------------------------------

FILE: 77777777         NUMBER: 100018          DATE: 12/01/84          PAGES:
TITLE/SUBJECT: [EA]  REGARDING HAZARD CRITERIA USED TO EVALUATE CONTAMINANT
               LEVELS
               AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100019          DATE: 12/23/84          PAGES: 7
TITLE/SUBJECT: [EA]  COMMENTS ON HAZARD CRITERIA USED TO EVALUATE
               CONTAMINANT LEVELS.  ATTACHED IS A 10/9/84 MEMORANDUM TO
               GENE LUCERO CONCERNING HAZARD CRITERIA AND A TRANSMITTAL OF
               A LETTER CONCERNING THE USE OF HAZARD CRITERIA AT NPL SITES
               TO GENE LUCERO FROM ROBERT L. DUPREY.
       AUTHOR: LUCERO, GENE A.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100020           DATE: 05/22/85          PAGES:
TITLE/SUBJECT: [EA]  "SUPERFUND HEALTH ASSESSMENT MANUAL"
               AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777        NUMBER: 100021           DATE: 08/00/85          PAGES: 22
TITLE/SUBJECT: [EA]  "ENDANGERMENT ASSESSMENT HANDBOOK" PREPARED FOR PRIME
               CONTRACTOR, PRC ENVIRONMENTAL MANAGEMENT, INC. UNDER
               CONTRACT # 68-01-7037.  INCLUDES MEMORANDUM OF TRANSMITTAL
               FROM GENE A. LUCERO, DATED 9/20/85 AND AN ERRATA OUTLINING
               CHANGES MADE.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ICAIR, LIFE SYSTEMS, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777        NUMBER: 100022           DATE: 08/00/85          PAGES: 193
TITLE/SUBJECT: [EA]  "TOXICOLOGY HANDBOOK, PRINCIPLES RELATED TO HAZARDOUS
               WASTE SITE INVESTIGATIONS" PREPARED FOR THE PRIME
               CONTRACTOR, PRC ENVIRONMENTAL MANAGEMENT, INC. UNDER
               CONTRACT # 68-01-7037.
       AUTHOR: NOT INDICATED
 ORGANIZATION: ICAIR, LIFE SYSTEMS, INC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777        NUMBER: 100023           DATE: 11/22/85          PAGES: 22
TITLE/SUBJECT: [EA]  TRANSMITTAL OF ENDANGERMENT ASSESSMENT GUIDANCE
               DOCUMENTS.
       AUTHOR: PORTER, J. WINSTON
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777        NUMBER: 100024           DATE: 06/06/86          PAGES: 2
TITLE/SUBJECT: [EA]  "THE SUPERFUND PUBLIC HEALTH EVALUATION DATABASE FOR
               PERSONAL COMPUTERS" WHICH IS INTENDED TO ACCOMPANY THE
               SUPERFUND PUBLIC HEALTH EVALUATION MANUAL, DECEMBER 18, 1985
               DRAFT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777        NUMBER: 100025           DATE: 6/19/86E          PAGES: 14
TITLE/SUBJECT: [EA]  TRANSMITTAL OF A REPORT, "DATA NEEDS FOR EVALUATION
               OF POTENTIAL HUMAN EXPOSURE TO CHEMICALS AT UNCONTROLLED
               HAZARDOUS WASTE SITES".  ALSO ATTACHED IS A DRAFT OF
               "GUIDELINES FOR PROVIDING LABORATORY DATA AND QUALITY
               CONTROL INFORMATION IN REPORTS OF ENVIRONMENTAL STUDIES"
       AUTHOR: NOT INDICATED
 ORGANIZATION: AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100026           DATE: 06/30/86           PAGES: 12
TITLE/SUBJECT: [EA] REGARDING ESTABLISHMENT OF THE RISK ASSESSMENT COUNCIL.
               ATTACHED IS THE RISK ASSESSMENT COUNCIL CHARTER INCLUDING
               THEIR OBJECTIVES, ORGANIZATION AND PROCEDURES AND THE RISK
               ASSESSMENT FORUM CHARTER.
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100027           DATE: 09/24/86           PAGES: 43
TITLE/SUBJECT: [EA]  FEDERAL REGISTER, PART III, "GUIDELINES FOR MUTA-
               GENICITY RISK ASSESSMENT".  ATTACHED ARE PARTS IV-VI;
               GUIDELINES FOR THE HEALTH RISK ASSESSMENT OF CHEMICAL
               MIXTURES, FOR THE HEALTH ASSESSMENT OF SUSPECT DEVELOPMENTAL
               TOXICANTS, AND FOR EXPOSURE ASSESSMENT.
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777         NUMBER: 100028           DATE: 07/10/86           PAGES: 3
TITLE/SUBJECT: [FEMA]  REGARDING PROCEDURES FOR FUNDING INTERAGENCY
               AGREEMENTS WITH FEMA.
       AUTHOR: RYAN, DAVID P.
 ORGANIZATION: USEPA
    ADDRESSEE: IRBY, GEORGE
 ORGANIZATION: USEPA
DOCUMENT TYPE: MEMO
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FILE: 77777777         NUMBER: 100029           DATE: 06/00/85           PAGES: 178
TITLE/SUBJECT: [FS]  "GUIDANCE ON FEASIBILITY STUDIES UNDER CERCLA"
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777         NUMBER: 100030           DATE: 11/20/85           PAGES: 63
TITLE/SUBJECT: [NCP]  FEDERAL REGISTER - PART II, "NATIONAL OIL AND
               HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN; FINAL
               RULE".
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777         NUMBER: 100031           DATE: 05/26/85           PAGES: 12
TITLE/SUBJECT: [OSP]  REGARDING PROCEDURES FOR PLANNING AND IMPLEMENTING
               OFF-SITE RESPONSE ACTIONS.
       AUTHOR: MCGRAW, JACK W.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777 NUMBER: 100032 DATE: 09/03/82E PAGES: 34
TITLE/SUBJECT: [QA] "REGION VIII'S QUALITY ASSURANCE GUIDANCE, REQUIREMENTS AND PROCEDURES MANUAL", DOCUMENT CONTROL # R8-QAO-82-QAPM-01, FY - 82/83.
AUTHOR: NOT INDICATED
ORGANIZATION: USEPA-VIII
ADDRESSEE: NOT INDICATED
ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY

FILE: 77777777 NUMBER: 100033 DATE: 06/06/86 PAGES: 147
TITLE/SUBJECT: [QA] "DATA QUALITY OBJECTIVES FOR THE RI/FS PROCESS" PREPARED FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, OFFICE OF WASTE PROGRAMS ENFORCEMENT, AND OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. DOCUMENT # 9355.0-7A
AUTHOR: LONGEST, HENRY L., II
ORGANIZATION: USEPA HEADQUARTERS
ADDRESSEE: DIRECTORS
ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: REPORT/STUDY

FILE: 77777777 NUMBER: 100034 DATE: 07/30/86 PAGES: 4
TITLE/SUBJECT: [QA] REGARDING REVIEWS AND APPROVAL OF CERCLA SAMPLING AND QAPP PLANS. FOCUSES ON WAYS TO SPEED UP AND/OR IMPROVE QUALITY OF QAPP AND SAMPLING PLAN REVIEWS.
AUTHOR: LEHR, JAMES B.
ORGANIZATION: USEPA-VIII
ADDRESSEE: GEISE, BILL
ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MEMO

FILE: 77777777 NUMBER: 100035 DATE: 08/19/86 PAGES: 10
TITLE/SUBJECT: [R/C] REGARDING CONSIDERATION OF RCRA REQUIREMENTS IN PERFORMING CERCLA RESPONSES AT MINING WASTE SITES. FEDERAL REGISTER, "REGULATORY DETERMINATION FOR WASTES FROM THE EXTRACTION AND BENEFICIATION ORES AND MINERALS," IS ATTACHED.
AUTHOR: LONGEST, HENRY L., II
ORGANIZATION: USEPA HEADQUARTERS
ADDRESSEE: DIRECTORS
ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO

FILE: 77777777 NUMBER: 100036 DATE: 03/00/84 PAGES: 93
TITLE/SUBJECT: [RA] "SUMMARY REPORT: REMEDIAL RESPONSE AT HAZARDOUS WASTE SITES"
AUTHOR: NOT INDICATED
ORGANIZATION: ENVIRONMENTAL LAW INSTITUTE
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY

FILE: 77777777 NUMBER: 100037 DATE: 06/00/85 PAGES: 147
TITLE/SUBJECT: [RD/RA] "EPA GUIDE FOR MINIMIZING THE ADVERSE ENVIRONMENTAL EFFECTS OF CLEANUP OF UNCONTROLLED HAZARDOUS-WASTE SITES" PREPARED UNDER INTERAGENCY AGREEMENT # AD-89-F-2A115.
AUTHOR: NOT INDICATED
ORGANIZATION: PACIFIC NORTHWEST LABORATORY
ADDRESSEE: NOT INDICATED
ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY

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FILE: 77777777          NUMBER: 100038          DATE: 10/00/85          PAGES: 682
TITLE/SUBJECT: [RD/RA]  "HANDBOOK - REMEDIAL ACTION AT WASTE DISPOSAL SITES
               (REVISED)" PREPARED UNDER CONTRACT # 68-03-3113.  INCLUDES
               REMEDIAL ACTION DESCRIPTION, APPLICATION, DESIGN,
               CONSTRUCTION, OPERATION, TECHNOLOGY EVALUATION, AND COSTS.
        AUTHOR: NOT INDICATED
  ORGANIZATION: SAIC
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100039          DATE: 06/00/86          PAGES: 105
TITLE/SUBJECT: [RD/RA]  "SUPERFUND REMEDIAL DESIGN AND REMEDIAL ACTION
               GUIDANCE", REVISED EDITION, FIRST ISSUE WAS DATED 2/85.
               REPORT SUMMARIZES THE STEPS TAKEN TO PREPARE FOR REMEDIAL
               ACTION.
        AUTHOR: NOT INDICATED
  ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100040          DATE: 12/24/86          PAGES: 28
TITLE/SUBJECT: [REA/SAR]  "INTERIM GUIDANCE ON SUPERFUND SELECTION
               OF REMEDY,"  PROVIDING GUIDANCE CONCERNING IMPLEMENTATION OF
               SARA CLEANUP STANDARDS AND PROVISIONS.  ATTACHED IS A TRANS-
               MITTAL OF THE REPORT FROM JOHN F. WARDELL, EPA REG. VIII TO
               DUANE ROBERTSON, OF MDHES.
        AUTHOR: PORTER, J. WINSTON
  ORGANIZATION: USEPA HEADQUARTERS
     ADDRESSEE: REGIONAL ADMINISTRATORS
  ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100041          DATE: 06/00/85          PAGES: 172
TITLE/SUBJECT: [RI]  "GUIDANCE ON REMEDIAL INVESTIGATIONS UNDER CERCLA"
               PREPARED UNDER CONTRACT # 68-03-3113 TO BE USED IN CONDUCT-
               ING INVESTIGATIONS SUPPORTING ENFORCEMENT AND LITIGATION
               AS IT PROVIDES A DETAILED STRUCTURE FOR FIELD STUDIES.
        AUTHOR: NOT INDICATED
  ORGANIZATION: JRB ASSOCIATES
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100042          DATE: 09/03/86E         PAGES: 4
TITLE/SUBJECT: [ROD/EDD]  "ROD DECISIONS PERTAINING TO ARSENIC, CADMIUM,
               AND LEAD SOIL CONTAMINATION", INCLUDES SITE NAME, DATE,
               PROBLEM, ACTION AND ACTION LEVELS, AND EPA REGION.  ATTACHED
               IS A LIST OF SITES, THE RESPECTIVE EPA REGIONAL AND HEAD-
               QUARTERS CONTACTS AND THEIR PHONE NUMBERS.
        AUTHOR: NOT INDICATED
  ORGANIZATION: NOT INDICATED
     ADDRESSEE: NOT INDICATED
  ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100043           DATE: 03/20/84          PAGES: 9
TITLE/SUBJECT: [RPS/NL]  REGARDING PARTICIPATION OF POTENTIALLY RESPONSIBLE
               PARTIES IN DEVELOPMENT OF REMEDIAL INVESTIGATIONS AND
               FEASIBILITY STUDIES UNDER CERCLA.
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
    ADDRESSEE: REGIONAL ADMINISTRATORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777          NUMBER: 100044           DATE: 10/12/84          PAGES: 26
TITLE/SUBJECT: [RPS/NL]  REGARDING PROCEDURES FOR ISSUING NOTICE LETTERS.
               A GENERIC SAMPLE STRUCTURE FOR A NOTICE LETTER IS INCLUDED.
       AUTHOR: LUCERO, GENE A.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DIRECTORS
 ORGANIZATION: USEPA, REGIONS I-X
DOCUMENT TYPE: MEMO
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FILE: 77777777          NUMBER: 100045           DATE: 03/27/85          PAGES: 2
TITLE/SUBJECT: [RPS/NL]  REGARDING PRP PARTICIPATION IN RI/FS.  PROVIDES
               GUIDELINES TO THE SEQUENCE OF EVENTS BEFORE THE RI/FS.
       AUTHOR: LUCERO, GENE A.
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: DIRECTORS
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DOCUMENT TYPE: MEMO
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FILE: 77777777          NUMBER: 100046           DATE: 02/19/87          PAGES: 14
TITLE/SUBJECT: [SARA]  TRANSMITTAL OF THE RECENTLY SIGNED EXECUTIVE ORDER
               ON SUPERFUND IMPLEMENTATION.
       AUTHOR: DUPREY, ROBERT L.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: PICKERELL, LORETTA
 ORGANIZATION: UTAH DEPARTMENT OF HEALTH
DOCUMENT TYPE: LETTER
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FILE: 77777777          NUMBER: 100047           DATE: 12/00/81          PAGES: 335
TITLE/SUBJECT: [TG-G]  "SUPERFUND GUIDANCE MANUAL"
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100048           DATE: 00/00/84E         PAGES: 12
TITLE/SUBJECT: [TG-G]  PETREX COMPANY ENVIRONMENTAL SURVEYS:  INFORMATION
               ON GROUNDWATER CONTAMINATION AND ANALYSIS METHODS.
               INCLUDES COST ESTIMATES FOR SAMPLES.
       AUTHOR: NOT INDICATED
 ORGANIZATION: PETREX
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100049           DATE: 04/00/85          PAGES: 248
TITLE/SUBJECT: [TG-G]  "CHARACTERIZATION OF HAZARDOUS WASTE SITES - A
               METHODS MANUAL, VOLUME I - SITE INVESTIGATIONS"
       AUTHOR: FORD, PATRICK J.
 ORGANIZATION: GCA CORPORATION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100050          DATE: 00/00/00          PAGES:
TITLE/SUBJECT: [QA]  REGION 8 QA GUIDANCE ON LEVEL A/B.
               AVAILABLE UPON REQUEST
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MEMO
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FILE: 77777777          NUMBER: 100051          DATE: 04/22/86E         PAGES: 11
TITLE/SUBJECT: [TG-G]  "A COMPARISON OF TRACE METAL DETERMINATIONS IN
               CONTAMINATED SOILS BY XRF AND ICAP SPECTROSCOPIES"
       AUTHOR: KENDALL, DOUGLAS S.
 ORGANIZATION: USEPA-VIII
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100052          DATE: 09/10/00E         PAGES: 4
TITLE/SUBJECT: [ ]  REGARDING INTERNATIONAL PAPER ACL DEMONSTRATION,
               CONSISTING OF SETTING ACCEPTABLE RISK LEVELS FOR CARCINO-
               GENIC CONSTITUENTS IN ESTABLISHING ALTERNATE CONCENTRATION
               LIMITS (ACL).
       AUTHOR: THOMAS, LEE
 ORGANIZATION: USEPA HEADQUARTERS
    ADDRESSEE: KAY, MORRIS
 ORGANIZATION: USEPA, REGION VII
DOCUMENT TYPE: MEMO
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FILE: 77777777          NUMBER: 100053          DATE: 10/00/86          PAGES: 18[illegible]
TITLE/SUBJECT: [ ]  "SUPERFUND PUBLIC HEALTH EVALUATION MANUAL"
       AUTHOR: NOT INDICATED
 ORGANIZATION: USEPA, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: REPORT/STUDY
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FILE: 77777777          NUMBER: 100054          DATE: 12/13/84          PAGES: 14
TITLE/SUBJECT: INSTRUCTION 8620.4: PERMANENT RELOCATION PROJECTS UNDER
               SUPERFUND. THE INSTRUCTION DEFINES THE FEDERAL EMERGENCY
               MANAGEMENT AGENCY (FEMA) POLICIES FOR THE ADMINISTRATION
               OF PERMANENT RELOCATION RESPONSE OPERATIONS UNDER CERCLA
       AUTHOR: SPECK, SAMUEL W.
 ORGANIZATION: FEDERAL EMERGENCY MANAGEMENT AGENCY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021702           NUMBER: 100287            DATE: 00/00/80          PAGES: 8
TITLE/SUBJECT: "EPIDEMIOLOGIC EVALUATION OF THE CORONARY RISK IN PHYSICAL
               WORKERS OF NON-FERROUS METALWORKS. PART I: CORONARY RISK
               FACTORS; PART II: CORONARY HEART DISEASE" VOL. 37:469-472
               AND 507-510.
       AUTHOR: TRUSZ-GLUZA, MARIA., ET AL
 ORGANIZATION: PRZEGLAD LEKARSKI
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100288            DATE: 00/00/75          PAGES: 3
TITLE/SUBJECT: "THE EFFECTS OF DIETARY COPPER, IRON, AND ZINC ON THE
               TOXICITY OF LEAD IN MALE RATS" VOL. 36(8):3876-B.
       AUTHOR: KLAUDER, DAVID S.
 ORGANIZATION: DISSERTATION ABSTRACTS INTERNATIONAL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100289            DATE: 05/00/82          PAGES: 11
TITLE/SUBJECT: "A HISTORICAL PROSPECTIVE MORTALITY STUDY OF WORKERS IN
               COPPER AND ZINC REFINERIES" VOL. 24(5):398-408.
       AUTHOR: LOGUE, JAMES N., ET AL
 ORGANIZATION: JOURNAL OF OCCUPATIONAL MEDICINE
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100290            DATE: 00/00/76          PAGES: 4
TITLE/SUBJECT: "EFFECT OF DIETARY ZINC AND COPPER INTERRELATIONSHIPS ON
               BLOOD PARAMETERS OF THE RAT" VOL. 24(4):808-811.
       AUTHOR: MURTHY, LALITHA., ET AL
 ORGANIZATION: J. AGRIC. FOOD CHEM.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100291            DATE: 08/00/76          PAGES: 8
TITLE/SUBJECT: "COPPER METABOLISM AND THE EPIDEMIOLOGY OF CORONARY HEART
               DISEASE" VOL. 14(2):221-228.
       AUTHOR: KLEVAY, LESLIE M., ET AL
 ORGANIZATION: NUTRITION REPORTS INTERNATIONAL
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702           NUMBER: 100292            DATE: 10/00/73          PAGES: 9
TITLE/SUBJECT: "HYPERCHOLESTEROLEMIA IN RATS PRODUCED BY AN INCREASE IN THE
               RATIO OF ZINC TO COPPER INGESTED" VOL. 26:1060-1068.
       AUTHOR: KLEVAY, LESLIE M., ET AL
 ORGANIZATION: THE AMERICAN JOURNAL OF CLINICAL NUTRITION
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100293          DATE: 00/00/77          PAGES: 5
TITLE/SUBJECT: "INFLUENCE OF DIETARY COPPER AND ZINC ON RAT LIPID
               METABOLISM" VOL. 25(5):1105-1109.
       AUTHOR: PETERING, HAROLD G., ET AL
 ORGANIZATION: J. AGRIC. FOOD CHEM.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100294          DATE: 09/00/81          PAGES: 75
TITLE/SUBJECT: COMMUNITY HEALTH ASSOCIATED WITH ARSENIC IN DRINKING WATER
               IN MILLARD COUNTY, UTAH" (EPA-600/1-81-064)
       AUTHOR: SOUTHWICK, J.W., ET AL.
 ORGANIZATION: UTAH DEPARTMENT OF HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: HEALTH EFFECTS RESEARCH LAB
DOCUMENT TYPE: REPORT/STUDY
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FILE: 2021702          NUMBER: 100295          DATE: 00/00/87          PAGES: 11
TITLE/SUBJECT: "A METHOD FOR ESTIMATING SOIL INGESTION BY CHILDREN"
               VOL. 59:73-82.
       AUTHOR: CLAUSING, P., ET AL
 ORGANIZATION: INT. ARCH. OCCUP. ENVIRON. HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100296          DATE: 00/00/78          PAGES  9
TITLE/SUBJECT: "A SURVEY OF A POPULATION EXPOSED TO HIGH CONCENTRATIONS OF
               ARSENIC IN WELL WATER IN FAIRBANKS, ALASKA" VOL. 108(5):
               377-385.
       AUTHOR: HARRINGTON, MALCOLM., ET AL
 ORGANIZATION: AMERICAN JOURNAL OF EPIDEMIOLOGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100297          DATE: 12/00/75          PAGES: 4
TITLE/SUBJECT: "PROTECTIVE VALUE OF DIETARY COPPER AND IRON AGAINST SOME
               TOXIC EFFECTS OF LEAD IN RATS" VOL. 12:77-80.
       AUTHOR: KLAUDER, DAVID S., ET AL
 ORGANIZATION: ENVIRONMENTAL HEALTH PERSPECTIVES
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100298          DATE: 06/00/67          PAGES: 7
TITLE/SUBJECT: "THE EFFECT OF DIETARY MINERAL SUPPLEMENTS OF THE RAT ON
               THE (ILLEGIBLE) ACTIVITY OF 3-ETHOXY-2-OXOBUTYRALDEHYDE
               BIS(THIOSEMICARBAZONE)" VOL. 27 PART 1:1115-1121.
       AUTHOR: PETERING, HAROLD G., ET AL
 ORGANIZATION: CANCER RESEARCH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100299          DATE: 08/00/71         PAGES: 3
TITLE/SUBJECT: "STUDIES OF ZINC METABOLISM IN THE RAT" VOL. 22:93-121.
       AUTHOR: PETERING, HAROLD G., ET AL
 ORGANIZATION: ARCHIVES OF ENVIRONMENTAL HEALTH
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100300          DATE: 00/00/74         PAGES: 1
TITLE/SUBJECT: "THE INFLUENCE OF DIETARY MANGANESE AND CHROMIUM ON
               SERUM SERULOPLASMIN ACTIVITY, COPPER AND ZINC IN MALE RATS"
               VOL. 33(3 PART 1):668.
       AUTHOR: O'FLAHERTY, E.J., ET AL
 ORGANIZATION: FED. PROC.
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100301          DATE: 00/00/73         PAGES: 1
TITLE/SUBJECT: "EFFECTS OF CADMIUM ON GLUCOSE TOLERANCE AND SERUM
               INSULIN ZINC AND COPPER IN MALE RATS" VOL. 32(3 PART 1):468.
       AUTHOR: BOCK, R., ET AL
 ORGANIZATION: FED. PROC.
    ADDRESSEE. NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100302          DATE: 00/00/73        PAGES: 17
TITLE/SUBJECT: "SKIN CANCER IN CHRONIC ARSENICISM" VOL. 4(4):469-485.
       AUTHOR: YEH, SHU (M.D.)
 ORGANIZATION: HUMAN PATHOLOGY
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100303          DATE: 00/00/75         PAGES: 9
TITLE/SUBJECT: "A STUDY OF THE COMBINED TOXIC EFFECTS OF ORAL CADMIUM
               AND LEAD IN RATS" PAGES 395-401 IN: D.D. HEMPHILL, EDITOR
               "TRACE SUBSTANCES IN ENVIRONMENTAL HEALTH-IX"
               COLUMBIA, MO.
       AUTHOR: MURTHY, LALITHA., ET AL
 ORGANIZATION: UNIVERSITY OF CINCINNATI
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021702          NUMBER: 100304          DATE: 00/00/73         PAGES: 8
TITLE/SUBJECT: "THE IMPACT OF LOW LEVEL CADMIUM FEEDING ON BLOOD
               CHEMICALS IN MALE, SPRAGUE-DAWLEY RATS." PAGES 305-311
               IN: D.D. HEMPHILL, EDITOR "TRACE SUBSTANCES IN
               ENVIRONMENTAL HEALTH-VII" COLUMBIA, MO.
       AUTHOR: RICE, D.P., ET AL
 ORGANIZATION: UNIVERSITY OF CINCINNATI
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: NEWSPAPER/JOURNAL ARTICLE
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FILE: 2021705          NUMBER: 100051          DATE: 09/26/87         PAGES: 1
TITLE/SUBJECT: TRANSMITTAL OF 10 COPIES OF THE MILL CREEK REMEDIAL
               INVESTIGATION REPORT WITH CHANGES AS DIRECTED BY THE U.S.
               EPA REGION VIII.  A COPY OF A POINT-BY-POINT INVENTORY OF
               RESPONSES IS ALSO ATTACHED.
       AUTHOR: GLASS, GREGORY
 ORGANIZATION: TETRA TECH, INC.
    ADDRESSEE: DOLE, STEPHEN E.
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
DOCUMENT TYPE: LETTER
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FILE: 2021705          NUMBER: 100052          DATE: 09/00/87         PAGES: 12
TITLE/SUBJECT: "RESPONSES TO U.S. EPA COMMENTS ON THE REMEDIAL
               INVESTIGATION/FEASIBILITY STUDY DRAFT REPORT FOR
               MILL CREEK, MONTANA"
       AUTHOR: NOT INDICATED
 ORGANIZATION: ANACONDA MINERALS COMPANY (AMC)
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: USEPA-VIII
DOCUMENT TYPE: MISCELLANEOUS
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FILE: 2021705          NUMBER: 100053          DATE: 09/23/87         PAGES: 5
TITLE/SUBJECT: "SUMMARY OF FINAL FS CORRECTIONS - MILL CREEK, MONTANA RI/FS
               SEPTEMBER 23, 1987" (BUSINESS CARD OF MICHAEL SHAFFRON,
               PROJECT ENGINEER FOR DAMES & MOORE IS ATTACHED
       AUTHOR: NOT INDICATED
 ORGANIZATION: NOT INDICATED
    ADDRESSEE: NOT INDICATED
 ORGANIZATION: NOT INDICATED
DOCUMENT TYPE: MISCELLANEOUS
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